



BLUE ROCK  
ENVIRONMENTAL, INC.

**FILE COPY**

Mr. Mark Verhey  
Humboldt County Health Department  
Division of Environmental Health  
100 H Street, Suite 100  
Eureka, California 95501

August 29, 2005

**Re: Additional Investigation and Third Quarter  
2005 Groundwater Monitoring Report  
Elliott's Service Center (former)  
761 Eel River Drive, Loleta, CA  
HCDEH LOP No. 12210  
Blue Rock Project No. NC-2**

Dear Mr. Verhey,

This report presents the results of the additional subsurface investigation and the third quarter 2005 groundwater monitoring activities at former Elliott's Service Center, 761 Eel River Drive, Loleta, Humboldt County, California (site) (Figure 1), and was prepared for Mr. Ken Elliott by Blue Rock Environmental, Inc. (Blue Rock).

## **Background**

### Site Description

The site is located on the eastside of the Eel River Drive on the western side of the unincorporated town of Loleta, California (Figure 1). The site is relatively flat and slopes gently to the west. The site is surrounded by residential properties to the north, east, and south. The west side of the property is primarily farmland with dispersed residences. During previous drilling activities at the site indicated an initial depth to groundwater from 8 to 20 feet below ground surface (bgs), which stabilized between 10 to 15 feet bgs.

### Site History

The service station was built in 1927 and has been owned and operated by several different parties until Mr. Elliot purchased the property from the Bank of Loleta in 1989. Since Mr. Elliot purchased the property, the site has operated as Elliott's Service Center, which retails gasoline and services automobiles.

On December 18, 1989, one 1,000-gallon gasoline underground storage tank (UST) (Tank #1), one 250-gallon diesel UST (Tank #2), and one 2,000-gallon gasoline UST (Tank #3) were removed from a common excavation. One 550-gallon diesel UST (Tank #4) was removed from a separate excavation. The tanks were removed from the site at the locations shown on Figure 2. Alpha Construction of Eureka, California performed the tank removal. Mr. Kevin Metcalfe of the Humboldt County Division of Environmental Health (HCDEH) observed the tank removal.



Jim Roby, from Alpha Construction, collected five soil samples and two water samples from the excavations. The depths of the soil samples were between 6 and 8 feet bgs. Mr. Metcalfe noted that groundwater was present in the excavations at a depth of approximately 8 feet. Laboratory analysis of the samples found gasoline range hydrocarbon contamination in the soil and groundwater samples collected from both excavations. Upon removal of the tanks, Mr. Elliott replaced the fuel system with the 5,000-gallon aboveground storage tank (AST) currently located onsite and used to dispense fuel.

#### Site Investigation and Corrective Action History

In November of 1996, Clearwater Group (Clearwater) supervised the drilling of eight soil borings to collect soil and groundwater samples around the former UST locations and the dispenser island. The results of this investigation indicated that soil and groundwater in the vicinity of the former USTs has been impacted by petroleum hydrocarbons. Based on the data collected during this phase of investigation, the soil contamination appeared limited to the immediate vicinity of the former USTs and the extent of impacted groundwater was not delineated. Results of this investigation were presented in Clearwater's *Preliminary Site Assessment Report* dated April 15, 1999.

In a letter dated June 24, 1999, the HCDEH requested a formal workplan to perform additional subsurface investigation at the site. Clearwater submitted the requested *Subsurface Investigation Workplan* dated September 9, 1999, which was approved in a letter from the HCDEH dated September 28, 1999.

On May 15, 2000, Clearwater completed a subsurface investigation, which consisted of the installation of four monitoring wells (MW-1 through MW-4). Based on analytical results obtained from soil samples collected during well installation, petroleum impacted soil was identified as primarily located west of the existing pump-island and north west of the former fuel UST locations. Low concentrations of petroleum hydrocarbons were detected in soil samples collected from each well. Groundwater flow was west-southwest. Petroleum hydrocarbons detected in groundwater samples collected from MW-2 and MW-4 indicated that the downgradient extent of impacted groundwater had not been fully defined. Results of the May 2000 subsurface investigation were reported in Clearwater's *Subsurface Investigation Report* dated June 8, 2000.

The HCDEH requested a workplan to perform additional subsurface investigation at the site and conduct a sensitive receptor survey in a letter dated August 15, 2000. The *Sensitive Receptor Survey/ Workplan for Subsurface Investigation* dated November 9, 2000 was submitted by Clearwater to HCDEH and approved in a letter dated December 21, 2000. The sensitive receptor survey indicated that four domestic water wells are located within 1,000 feet of the site. Results of this survey are presented in Clearwater's *Sensitive Receptor Survey* dated November 9, 2000.



On August 8, 2001, Clearwater supervised installation of four additional monitoring wells associated with the subject property: MW-5, MW-6, MW-7 and MW-8 (Figure 2). These monitoring wells were placed in locations to further assess the sorbed and dissolved-phase hydrocarbon contamination associated with the UST release. Sorbed and dissolved-phase contaminants were adequately delineated during this investigation. Results of this investigation are presented in Clearwater's *Additional Assessment and Third Quarter 2001 Groundwater Monitoring Report* dated September 14, 2001. The HCDEH concurred with Clearwater's recommendations with additional requirements in a letter dated November 5, 2001.

On January 31, 2002, Clearwater submitted a *Corrective Action Plan (CAP)* to the HCDEH. The CAP summarized sorbed and dissolved-phase hydrocarbon contamination at the site. Remedial alternatives were evaluated based on current contaminant conditions and sensitive receptor survey results. Clearwater recommended in-situ biodegradation of sorbed-phase and monitored natural attenuation for dissolved-phase remedial action. The HCDEH responded to this report with the request of performing and evaluating bioattenuation data in groundwater samples collected in 2002, and report findings in a *CAP Addendum/Site Conceptual Model Report*.

On January 30, 2003, Clearwater submitted a *Corrective Action Plan Addendum, Natural Attenuation Feasibility Study, and Site Conceptual Model Report* to the HCDEH. This report presented and discussed results from the natural attenuation study and summarized site conditions. Clearwater recommended continued groundwater monitoring for one year to determine a dissolved-phase contaminant attenuation timeframe and performing confirmation soil borings.

On August 12, 2003, Clearwater submitted a letter request to the HCDEH proposing source removal activities. The HCDEH concurred with this proposal in a letter dated August 14, 2003, and requested the submittal of a workplan.

On August 28, 2003, Clearwater submitted a *Source Removal Workplan* to the HCDEH. The workplan describes the proposed excavation locations and methods of source removal. The HCDEH commented on this workplan in a letter dated September 8, 2003.

In December of 2003, Clearwater supervised Felt Mountain Construction of Corning, California excavate 613 tons of petroleum contaminated soil located in the vicinity of the former UST fuel system. Based on mass calculations, Clearwater estimated that approximately 53.2 gallons of sorbed-phase TPHg were removed during remedial excavation activities. Remaining sorbed-phase TPHg was calculated at approximately 3.5 gallons. Based on these calculations approximately 93% of sorbed-phase TPHg contamination was removed from the site. Remedial activities are detailed in the *Remedial Report of Findings*, dated December 31, 2003.



On June 4, 2004, Blue Rock submitted an *Additional Investigation Workplan*. This workplan was prepared in response to the HCDEH's request for a monitoring point downgradient of soil borings B-5 and B-7 in a letter dated September 8, 2003. The workplan proposed the installation of two downgradient monitoring wells. This workplan was approved by the HCDEH in a letter dated June 9, 2004.

On June 16, 2004, Blue Rock supervised installation of two additional monitoring wells associated with the subject property: MW-9 and MW-10 (Figure 2). These monitoring wells were placed in locations to further assess the sorbed and dissolved-phase hydrocarbon contamination associated with the UST release. Sorbed and dissolved-phase contaminants were adequately delineated during this investigation. Results of this investigation are presented in Blue Rock's *Additional Investigation and Third Quarter 2004 Groundwater Monitoring Report* dated August 24, 2004.

On May 25, 2005, Blue Rock submitted an *Additional Investigation Workplan* to the HCDEH. This workplan was prepared in to delineate dissolved-phase contaminants downgradient of monitoring well MW-9. The workplan proposed the drilling of three downgradient soil borings with grab groundwater samples. This workplan was approved by the HCDEH in a letter dated June 2, 2005.

### **Purpose of Subsurface Investigation and Groundwater Monitoring**

As stated in Blue Rock's *Additional Investigation Workplan*, the purpose of this report, and work associated with it, is to evaluate the extent of petroleum hydrocarbon contamination in groundwater downgradient of monitoring well MW-9 (Figure 2). Blue Rock performed three hand auger soil borings, collected soil and groundwater samples from the soil borings, and surveyed temporary well casings placed in the soil borings to the existing monitoring well network in order to obtain a groundwater gradient and flow direction for the site.

### **Investigation and Groundwater Monitoring Activities**

#### Soil Boring Activities

On June 28, 2005, Blue Rock hand-augered three soil borings associated with the subject property: B-9 to B-11 (Figure 2). These borings were installed using a 3-inch diameter hand auger. These soil borings were placed in locations to assess hydrocarbon contamination downgradient of MW-9. These borings were advanced to 16 to 18 feet bgs.

Soil samples were collected from each boring during drilling activities continuously from 2 feet bgs to bottom of boring. Three soil samples from each boring were selected for laboratory analysis. All soil samples were then chilled and shipped to the project lab.

On June 28, 2005, Blue Rock surveyed temporary well casings placed in each soil boring to the existing monitoring well network to determine groundwater flow direction and gradient below the site. The elevations of the casings were surveyed to within  $\pm 0.01$ -foot.



Prior to sampling, an electronic water level indicator was used to gauge depth to water in the borings and monitoring wells, accurate to within  $\pm 0.01$ -foot. These borings were checked for the presence of light non-aqueous phase liquid (LNAPL) petroleum prior to sampling. No measurable thicknesses of LNAPL were observed on groundwater in each of the borings.

Blue Rock collected grab groundwater samples from the soil borings using disposable polyethylene bailers and transferred to laboratory supplied containers. Sample containers were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory.

Groundwater monitoring information is presented on Gauge Data/Purge Calculations and Purge Data sheets (attached). Soil cuttings were placed in a steel 55-gallon drum and stored onsite for future disposal.

Soil borings were grouted with neat cement after completing grab groundwater sample collection and surveying.

#### Quarterly Groundwater Monitoring Activities

On August 1, 2005, all ten wells (MW-1 through MW-10) were gauged and a select group of wells were monitored (Table 6).

Prior to sampling, an electronic water level indicator was used to gauge depth to water in each well, accurate to within  $\pm 0.01$ -foot. All wells were checked for the presence of light non-aqueous phase liquid (LNAPL) petroleum prior to purging. No measurable thicknesses of LNAPL were observed on groundwater in any of the wells. Dissolved oxygen measurements were collected to monitor the effectiveness of the dissolved-phase hydrocarbon cleanup.

In preparation for sampling, the wells were purged of groundwater until sampling parameters (temperature, pH, and conductivity) stabilized.

Following recovery of water levels to at least approximately 80% of their static levels, groundwater samples were collected from the wells using disposable polyethylene bailers and transferred to laboratory supplied containers. Sample containers were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory.

Purging instruments were cleaned between use by an Alconox<sup>®</sup> wash followed by double rinse in clean tap water to prevent cross-contamination. Purge and rinse water was stored on-site in labeled 55-gallon drums pending future removal and disposal.

Groundwater monitoring and well purging information is presented on Gauge Data/Purge Calculations and Purge Data sheets (attached).



#### Soil and Groundwater Sample Analyses

Soil and groundwater samples were analyzed by Kiff Analytical (Kiff), a DHS-certified laboratory, located in Davis, California, for the following analytes:

- TPHd by EPA Method 8015M with silica gel cleanup.
- TPHg, BTEX, and MTBE by EPA Method 5030/8260B.

#### **Subsurface Investigation and Groundwater Monitoring Results**

##### Hydrogeologic Conditions

Investigative activities indicate that the site is underlain predominantly by sediments characterized as clayey silt and sandy silt to a depth of at least 18 feet bgs (attached boring logs).

On June 28, 2005, static groundwater in the soil borings and wells was present beneath the site at depths ranging from approximately 11.50 (MW-10) to 19.49 (MW-7) feet below top of casing. Gauging data, combined with temporary boring and well elevation data, were used to calculate groundwater elevations, and to generate a groundwater elevation and gradient map. The groundwater flow direction was calculated to be toward the west at a gradient of 0.07 ft/ft (Figure 3a). The groundwater gradient and flow direction are generally consistent with previous measurements.

On August 1, 2005, static groundwater in the wells was present beneath the site at depths ranging from approximately 12.45 (MW-10) to 17.17 (MW-7) feet bgs. Gauging data, combined with well elevation data, were used to calculate groundwater elevation, and to generate a groundwater elevation and gradient map. The groundwater flow direction was calculated to be toward the west-southwest at a gradient of 0.04 ft/ft (Figure 3b). The groundwater gradient and flow direction are consistent with previous measurements.

##### Soil Sample Analytical Results

All soil samples were successfully sent under chain-of-custody to the project laboratory. Low concentrations of TPHd were detected in soil samples collected from 5 to 18 feet bgs. TPHd ranged from 25 mg/kg (B-9@18') to <1 mg/kg (B-11@14.5'). Concentrations of TPHg were not detected above standard detection limits. Concentrations of BTEX and MTBE were not detected above standard detection limits. Sorbed-phase fuel hydrocarbon contaminants are delineated below the site. Soil sample analytical results are listed in Table 1, and displayed in Figure 4a and 4b. Kiff analytical reports are attached.



#### Groundwater Sample Analytical Results

All groundwater samples were successfully sent under chain-of-custody to the project laboratory. Grab groundwater sample analytical results are summarized below.

|                        |  |
|------------------------|--|
| LNAPL:                 | None   |
| TPHd concentration:    | <50 µg/L (numerous wells and borings) to <300 µg/L (MW-4)              |
| TPHg concentration:    | <50 µg/L (numerous wells and borings) to 4,400 µg/L (MW-4)             |
| Benzene concentration: | <0.50 µg/L (numerous wells and borings) to 10 µg/L (MW-4)              |
| MTBE Concentration:    | <0.50 µg/L (numerous wells) to 18 µg/L (B-10)                          |
| Dissolved Oxygen:      | 4.43 mg/L (MW-1), 3.90 mg/L (MW-2), 1.63 mg/L (MW-4), 3.61 mg/L (MW-9) |

Groundwater sample analytical results are shown graphically on Figures 5a, 5b, 5c and 5d, and cumulative groundwater sample analytical results are summarized in Table 3. Intrinsic bio-remediation data are summarized in Table 4, and summary of well construction details is included in Table 5. Copies of the laboratory report and chain-of-custody form are attached.

#### **Evaluation of Groundwater Contaminant Trends**

In their *First Quarter 2005 Groundwater Monitoring Report*, Blue Rock attempted to determine first-order decay rates for the dissolved-phase contaminants. Review of the data suggested that groundwater elevations and dissolved-phase contaminant concentrations are correlated, i.e. dissolved-phase concentrations go up when groundwater elevations go up and dissolved-phase concentrations go down when groundwater elevations go down. This phenomenon is clearly shown on Chart 1 "MW-4: TPHg & GW Elev Vs. Time" (attached). Therefore, in order to more accurately evaluate temporal trends in dissolved-phase concentrations, it is necessary to remove the influence of groundwater elevations on concentration data. Blue Rock accomplished this by simply using historical dissolved-phase concentration data from monitoring periods with very similar groundwater elevations. Seasonally, groundwater elevations in MW-4 fluctuate up to 6 feet, from approximately 13.5 to 19.5 feet bgs. Blue Rock selected data from monitoring events when groundwater elevations were relatively consistent with fluctuation of only 1.2 feet, which ranged only between 16.17 and 17.42 feet bgs. The same monitoring dates were also selected for data from MW-2. These two wells were chosen because: (1) they are the most impacted wells at the site, and, therefore, represent worst case conditions, and (2) they are the only impacted wells with sufficient temporal data. TPHg and MTBE concentrations for these wells were plotted against time for these specific monitoring events, and a trend line was fitted to the data (Charts 2 and 3) using the method presented Buscheck, O'Reilly, and Nelson (1993) by the following equation:



$$C(t) = C_0 e^{-(kt)}$$

Where,

$C(t)$  is concentration as a function of time ( $t$ )

$C_0$  = is concentration as  $t = 0$

$k$  = is the decay rate ( $t^{-1}$ )

For MW-4, the most contaminated well, the first order decay rates for TPHg and MTBE were 0.001/day ( $R^2 = 0.67$ ) and 0.0009/day ( $R^2 = 0.79$ ), respectively. The  $R^2$  values for MW-4 indicate that the equations fit the data well, and, thus, are suitable for extrapolation. For MW-2, the first order decay rates for TPHg and MTBE were 0.001/day ( $R^2 = 0.39$ ) and 0.0009/day ( $R^2 = 0.52$ ), respectively. The  $R^2$  values for MW-2 do not appear to represent as good a fit to the data as MW-4; however, visual inspection of the plot shows a qualitative decline in concentrations over time. Trends for other wells will be plotted as soon as a sufficient temporal data are suitable to remove the signature of groundwater levels on contaminant concentrations.

#### **Project Status and Recommendations**

- The site is currently being monitored on a quarterly basis per the HCDEH directives. The next quarterly sampling event is scheduled for November 2005. Groundwater samples will be analyzed for TPHg, BTEX, and MTBE.
- Blue Rock recommends deleting TPHd from the quarterly groundwater sampling schedule because it has not been detected in any of the water samples collected from the site over the past year.
- Table 6 shows the groundwater monitoring schedule.

#### **References**

Buscheck, T.E., O'Reilly, K.T., and Nelson, S.N. 1993. *Evaluation of Intrinsic Bioremediation at Field Sites*. Proceedings of the Conference of Petroleum Hydrocarbons and Organic Chemicals in Ground Water, National Groundwater Association/API, Houston, TX. November 10-12.



## Certification

This report was prepared under the supervision of a California Professional Geologist at Blue Rock. All statements, conclusions, and recommendations are based upon published results from past consultants, field observations by Blue Rock, and analyses performed by a state-certified laboratory as they relate to the time, location, and depth of points sampled by Blue Rock. Interpretation of data, including spatial distribution and temporal trends, are based on commonly used geologic and scientific principles. It is possible that interpretations, conclusions, and recommendations presented in this report may change, as additional data become available and/or regulations change.

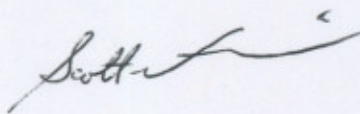
Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Blue Rock has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

If you have any questions regarding this project, please contact us at (707) 441-1934.


Sincerely,  
Blue Rock Environmental, Inc.

Prepared by:

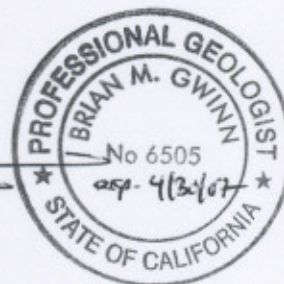


Scott Ferriman  
Project Scientist

Reviewed by:



Brian Gwinn, PG  
Principal Geologist





Attachments:

Table 1: Soil Analytical Data  
Table 2: Excavation Limits Soil Analytical Data  
Table 3: Groundwater Elevations and Analytical Results  
Table 4: Intrinsic Bioremediation Data  
Table 5: Well Construction Details  
Table 6: Groundwater Monitoring Schedule

Figure 1: Site Location Map  
Figure 2: Site Plan  
Figure 3a: Groundwater Elevation and Gradient – 6/28/05  
Figure 3b: Groundwater Elevation and Gradient – 8/1/05  
Figure 4a: Sorbed-Phase TPHd Distribution  
Figure 4b: Sorbed-Phase TPHg Distribution  
Figure 5a: Dissolved-Phase TPHd Distribution Map – 8/1/05  
Figure 5b: Dissolved-Phase TPHg Distribution Map – 8/1/05  
Figure 5c: Dissolved-Phase Benzene Distribution Map – 8/1/05  
Figure 5d: Dissolved-Phase MTBE Distribution Map – 8/1/05

Chart 1: MW-4 TPHg & GW Elev. Vs. Time  
Chart 2: MW-4 TPHg & MTBE vs. Time for ~Consistent GW Elev.  
Chart 3: MW-2 TPHg & MTBE vs. Time for ~Consistent GW Elev.

Soil Boring Log for B-9  
Soil Boring Log for B-10  
Soil Boring Log for B-11

Blue Rock's Gauge/Purge Calculations and Well Purging Data Field Sheets  
Laboratory Analytical Reports and Chain-of-Custody Forms

Distribution:

Ken Elliott  
PO Box 54  
Hydesville, CA 95547

Betty Kinoshita  
US Bank  
P.O. Box 3108  
Portland, OR 97208-3108





**BLUE ROCK  
ENVIRONMENTAL, INC.**

Mr. Mark Verhey  
Humboldt County Health Department  
Division of Environmental Health  
100 H Street, Suite 100  
Eureka, California 95501

August 29, 2005

**Re: Additional Investigation and Third Quarter  
2005 Groundwater Monitoring Report  
Elliott's Service Center (former)  
761 Eel River Drive, Loleta, CA  
HCDEH LOP No. 12210  
Blue Rock Project No. NC-2**

Dear Mr. Verhey,

This report presents the results of the additional subsurface investigation and the third quarter 2005 groundwater monitoring activities at former Elliott's Service Center, 761 Eel River Drive, Loleta, Humboldt County, California (site) (Figure 1), and was prepared for Mr. Ken Elliott by Blue Rock Environmental, Inc. (Blue Rock).

## **Background**

### Site Description

The site is located on the eastside of the Eel River Drive on the western side of the unincorporated town of Loleta, California (Figure 1). The site is relatively flat and slopes gently to the west. The site is surrounded by residential properties to the north, east, and south. The west side of the property is primarily farmland with dispersed residences. During previous drilling activities at the site indicated an initial depth to groundwater from 8 to 20 feet below ground surface (bgs), which stabilized between 10 to 15 feet bgs.

### Site History

The service station was built in 1927 and has been owned and operated by several different parties until Mr. Elliot purchased the property from the Bank of Loleta in 1989. Since Mr. Elliot purchased the property, the site has operated as Elliott's Service Center, which retails gasoline and services automobiles.

On December 18, 1989, one 1,000-gallon gasoline underground storage tank (UST) (Tank #1), one 250-gallon diesel UST (Tank #2), and one 2,000-gallon gasoline UST (Tank #3) were removed from a common excavation. One 550-gallon diesel UST (Tank #4) was removed from a separate excavation. The tanks were removed from the site at the locations shown on Figure 2. Alpha Construction of Eureka, California performed the tank removal. Mr. Kevin Metcalfe of the Humboldt County Division of Environmental Health (HCDEH) observed the tank removal.



Jim Roby, from Alpha Construction, collected five soil samples and two water samples from the excavations. The depths of the soil samples were between 6 and 8 feet bgs. Mr. Metcalfe noted that groundwater was present in the excavations at a depth of approximately 8 feet. Laboratory analysis of the samples found gasoline range hydrocarbon contamination in the soil and groundwater samples collected from both excavations. Upon removal of the tanks, Mr. Elliott replaced the fuel system with the 5,000-gallon aboveground storage tank (AST) currently located onsite and used to dispense fuel.

#### Site Investigation and Corrective Action History

In November of 1996, Clearwater Group (Clearwater) supervised the drilling of eight soil borings to collect soil and groundwater samples around the former UST locations and the dispenser island. The results of this investigation indicated that soil and groundwater in the vicinity of the former USTs has been impacted by petroleum hydrocarbons. Based on the data collected during this phase of investigation, the soil contamination appeared limited to the immediate vicinity of the former USTs and the extent of impacted groundwater was not delineated. Results of this investigation were presented in Clearwater's *Preliminary Site Assessment Report* dated April 15, 1999.

In a letter dated June 24, 1999, the HCDEH requested a formal workplan to perform additional subsurface investigation at the site. Clearwater submitted the requested *Subsurface Investigation Workplan* dated September 9, 1999, which was approved in a letter from the HCDEH dated September 28, 1999.

On May 15, 2000, Clearwater completed a subsurface investigation, which consisted of the installation of four monitoring wells (MW-1 through MW-4). Based on analytical results obtained from soil samples collected during well installation, petroleum impacted soil was identified as primarily located west of the existing pump-island and north west of the former fuel UST locations. Low concentrations of petroleum hydrocarbons were detected in soil samples collected from each well. Groundwater flow was west-southwest. Petroleum hydrocarbons detected in groundwater samples collected from MW-2 and MW-4 indicated that the downgradient extent of impacted groundwater had not been fully defined. Results of the May 2000 subsurface investigation were reported in Clearwater's *Subsurface Investigation Report* dated June 8, 2000.

The HCDEH requested a workplan to perform additional subsurface investigation at the site and conduct a sensitive receptor survey in a letter dated August 15, 2000. The *Sensitive Receptor Survey/ Workplan for Subsurface Investigation* dated November 9, 2000 was submitted by Clearwater to HCDEH and approved in a letter dated December 21, 2000. The sensitive receptor survey indicated that four domestic water wells are located within 1,000 feet of the site. Results of this survey are presented in Clearwater's *Sensitive Receptor Survey* dated November 9, 2000.



On August 8, 2001, Clearwater supervised installation of four additional monitoring wells associated with the subject property: MW-5, MW-6, MW-7 and MW-8 (Figure 2). These monitoring wells were placed in locations to further assess the sorbed and dissolved-phase hydrocarbon contamination associated with the UST release. Sorbed and dissolved-phase contaminants were adequately delineated during this investigation. Results of this investigation are presented in Clearwater's *Additional Assessment and Third Quarter 2001 Groundwater Monitoring Report* dated September 14, 2001. The HCDEH concurred with Clearwater's recommendations with additional requirements in a letter dated November 5, 2001.

On January 31, 2002, Clearwater submitted a *Corrective Action Plan (CAP)* to the HCDEH. The CAP summarized sorbed and dissolved-phase hydrocarbon contamination at the site. Remedial alternatives were evaluated based on current contaminant conditions and sensitive receptor survey results. Clearwater recommended in-situ biodegradation of sorbed-phase and monitored natural attenuation for dissolved-phase remedial action. The HCDEH responded to this report with the request of performing and evaluating bioattenuation data in groundwater samples collected in 2002, and report findings in a *CAP Addendum/Site Conceptual Model Report*.

On January 30, 2003, Clearwater submitted a *Corrective Action Plan Addendum, Natural Attenuation Feasibility Study, and Site Conceptual Model Report* to the HCDEH. This report presented and discussed results from the natural attenuation study and summarized site conditions. Clearwater recommended continued groundwater monitoring for one year to determine a dissolved-phase contaminant attenuation timeframe and performing confirmation soil borings.

On August 12, 2003, Clearwater submitted a letter request to the HCDEH proposing source removal activities. The HCDEH concurred with this proposal in a letter dated August 14, 2003, and requested the submittal of a workplan.

On August 28, 2003, Clearwater submitted a *Source Removal Workplan* to the HCDEH. The workplan describes the proposed excavation locations and methods of source removal. The HCDEH commented on this workplan in a letter dated September 8, 2003.

In December of 2003, Clearwater supervised Felt Mountain Construction of Corning, California excavate 613 tons of petroleum contaminated soil located in the vicinity of the former UST fuel system. Based on mass calculations, Clearwater estimated that approximately 53.2 gallons of sorbed-phase TPHg were removed during remedial excavation activities. Remaining sorbed-phase TPHg was calculated at approximately 3.5 gallons. Based on these calculations approximately 93% of sorbed-phase TPHg contamination was removed from the site. Remedial activities are detailed in the *Remedial Report of Findings*, dated December 31, 2003.



On June 4, 2004, Blue Rock submitted an *Additional Investigation Workplan*. This workplan was prepared in response to the HCDEH's request for a monitoring point downgradient of soil borings B-5 and B-7 in a letter dated September 8, 2003. The workplan proposed the installation of two downgradient monitoring wells. This workplan was approved by the HCDEH in a letter dated June 9, 2004.

On June 16, 2004, Blue Rock supervised installation of two additional monitoring wells associated with the subject property: MW-9 and MW-10 (Figure 2). These monitoring wells were placed in locations to further assess the sorbed and dissolved-phase hydrocarbon contamination associated with the UST release. Sorbed and dissolved-phase contaminants were adequately delineated during this investigation. Results of this investigation are presented in Blue Rock's *Additional Investigation and Third Quarter 2004 Groundwater Monitoring Report* dated August 24, 2004.

On May 25, 2005, Blue Rock submitted an *Additional Investigation Workplan* to the HCDEH. This workplan was prepared in to delineate dissolved-phase contaminants downgradient of monitoring well MW-9. The workplan proposed the drilling of three downgradient soil borings with grab groundwater samples. This workplan was approved by the HCDEH in a letter dated June 2, 2005.

### **Purpose of Subsurface Investigation and Groundwater Monitoring**

As stated in Blue Rock's *Additional Investigation Workplan*, the purpose of this report, and work associated with it, is to evaluate the extent of petroleum hydrocarbon contamination in groundwater downgradient of monitoring well MW-9 (Figure 2). Blue Rock performed three hand auger soil borings, collected soil and groundwater samples from the soil borings, and surveyed temporary well casings placed in the soil borings to the existing monitoring well network in order to obtain a groundwater gradient and flow direction for the site.

### **Investigation and Groundwater Monitoring Activities**

#### Soil Boring Activities

On June 28, 2005, Blue Rock hand-augered three soil borings associated with the subject property: B-9 to B-11 (Figure 2). These borings were installed using a 3-inch diameter hand auger. These soil borings were placed in locations to assess hydrocarbon contamination downgradient of MW-9. These borings were advanced to 16 to 18 feet bgs.

Soil samples were collected from each boring during drilling activities continuously from 2 feet bgs to bottom of boring. Three soil samples from each boring were selected for laboratory analysis. All soil samples were then chilled and shipped to the project lab.

On June 28, 2005, Blue Rock surveyed temporary well casings placed in each soil boring to the existing monitoring well network to determine groundwater flow direction and gradient below the site. The elevations of the casings were surveyed to within  $\pm 0.01$ -foot.



Prior to sampling, an electronic water level indicator was used to gauge depth to water in the borings and monitoring wells, accurate to within  $\pm 0.01$ -foot. These borings were checked for the presence of light non-aqueous phase liquid (LNAPL) petroleum prior to sampling. No measurable thicknesses of LNAPL were observed on groundwater in each of the borings.

Blue Rock collected grab groundwater samples from the soil borings using disposable polyethylene bailers and transferred to laboratory supplied containers. Sample containers were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory.

Groundwater monitoring information is presented on Gauge Data/Purge Calculations and Purge Data sheets (attached). Soil cuttings were placed in a steel 55-gallon drum and stored onsite for future disposal.

Soil borings were grouted with neat cement after completing grab groundwater sample collection and surveying.

#### Quarterly Groundwater Monitoring Activities

On August 1, 2005, all ten wells (MW-1 through MW-10) were gauged and a select group of wells were monitored (Table 6).

Prior to sampling, an electronic water level indicator was used to gauge depth to water in each well, accurate to within  $\pm 0.01$ -foot. All wells were checked for the presence of light non-aqueous phase liquid (LNAPL) petroleum prior to purging. No measurable thicknesses of LNAPL were observed on groundwater in any of the wells. Dissolved oxygen measurements were collected to monitor the effectiveness of the dissolved-phase hydrocarbon cleanup.

In preparation for sampling, the wells were purged of groundwater until sampling parameters (temperature, pH, and conductivity) stabilized.

Following recovery of water levels to at least approximately 80% of their static levels, groundwater samples were collected from the wells using disposable polyethylene bailers and transferred to laboratory supplied containers. Sample containers were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory.

Purging instruments were cleaned between use by an Alconox<sup>®</sup> wash followed by double rinse in clean tap water to prevent cross-contamination. Purge and rinse water was stored on-site in labeled 55-gallon drums pending future removal and disposal.

Groundwater monitoring and well purging information is presented on Gauge Data/Purge Calculations and Purge Data sheets (attached).



#### Soil and Groundwater Sample Analyses

Soil and groundwater samples were analyzed by Kiff Analytical (Kiff), a DHS-certified laboratory, located in Davis, California, for the following analytes:

- TPHd by EPA Method 8015M with silica gel cleanup.
- TPHg, BTEX, and MTBE by EPA Method 5030/8260B.

#### **Subsurface Investigation and Groundwater Monitoring Results**

##### Hydrogeologic Conditions

Investigative activities indicate that the site is underlain predominantly by sediments characterized as clayey silt and sandy silt to a depth of at least 18 feet bgs (attached boring logs).

On June 28, 2005, static groundwater in the soil borings and wells was present beneath the site at depths ranging from approximately 11.50 (MW-10) to 19.49 (MW-7) feet below top of casing. Gauging data, combined with temporary boring and well elevation data, were used to calculate groundwater elevations, and to generate a groundwater elevation and gradient map. The groundwater flow direction was calculated to be toward the west at a gradient of 0.07 ft/ft (Figure 3a). The groundwater gradient and flow direction are generally consistent with previous measurements.

On August 1, 2005, static groundwater in the wells was present beneath the site at depths ranging from approximately 12.45 (MW-10) to 17.17 (MW-7) feet bgs. Gauging data, combined with well elevation data, were used to calculate groundwater elevation, and to generate a groundwater elevation and gradient map. The groundwater flow direction was calculated to be toward the west-southwest at a gradient of 0.04 ft/ft (Figure 3b). The groundwater gradient and flow direction are consistent with previous measurements.

##### Soil Sample Analytical Results

All soil samples were successfully sent under chain-of-custody to the project laboratory. Low concentrations of TPHd were detected in soil samples collected from 5 to 18 feet bgs. TPHd ranged from 25 mg/kg (B-9@18') to <1 mg/kg (B-11@14.5'). Concentrations of TPHg were not detected above standard detection limits. Concentrations of BTEX and MTBE were not detected above standard detection limits. Sorbed-phase fuel hydrocarbon contaminants are delineated below the site. Soil sample analytical results are listed in Table 1, and displayed in Figure 4a and 4b. Kiff analytical reports are attached.



### Groundwater Sample Analytical Results

All groundwater samples were successfully sent under chain-of-custody to the project laboratory. Grab groundwater sample analytical results are summarized below.

|                        |  |
|------------------------|--|
| LNAPL:                 | None   |
| TPHd concentration:    | <50 µg/L (numerous wells and borings) to <300 µg/L (MW-4)              |
| TPHg concentration:    | <50 µg/L (numerous wells and borings) to 4,400 µg/L (MW-4)             |
| Benzene concentration: | <0.50 µg/L (numerous wells and borings) to 10 µg/L (MW-4)              |
| MTBE Concentration:    | <0.50 µg/L (numerous wells) to 18 µg/L (B-10)                          |
| Dissolved Oxygen:      | 4.43 mg/L (MW-1), 3.90 mg/L (MW-2), 1.63 mg/L (MW-4), 3.61 mg/L (MW-9) |

Groundwater sample analytical results are shown graphically on Figures 5a, 5b, 5c and 5d, and cumulative groundwater sample analytical results are summarized in Table 3. Intrinsic bio-remediation data are summarized in Table 4, and summary of well construction details is included in Table 5. Copies of the laboratory report and chain-of-custody form are attached.

### **Evaluation of Groundwater Contaminant Trends**

In their *First Quarter 2005 Groundwater Monitoring Report*, Blue Rock attempted to determine first-order decay rates for the dissolved-phase contaminants. Review of the data suggested that groundwater elevations and dissolved-phase contaminant concentrations are correlated, i.e. dissolved-phase concentrations go up when groundwater elevations go up and dissolved-phase concentrations go down when groundwater elevations go down. This phenomenon is clearly shown on Chart 1 "MW-4: TPHg & GW Elev Vs. Time" (attached). Therefore, in order to more accurately evaluate temporal trends in dissolved-phase concentrations, it is necessary to remove the influence of groundwater elevations on concentration data. Blue Rock accomplished this by simply using historical dissolved-phase concentration data from monitoring periods with very similar groundwater elevations. Seasonally, groundwater elevations in MW-4 fluctuate up to 6 feet, from approximately 13.5 to 19.5 feet bgs. Blue Rock selected data from monitoring events when groundwater elevations were relatively consistent with fluctuation of only 1.2 feet, which ranged only between 16.17 and 17.42 feet bgs. The same monitoring dates were also selected for data from MW-2. These two wells were chosen because: (1) they are the most impacted wells at the site, and, therefore, represent worst case conditions, and (2) they are the only impacted wells with sufficient temporal data. TPHg and MTBE concentrations for these wells were plotted against time for these specific monitoring events, and a trend line was fitted to the data (Charts 2 and 3) using the method presented Buscheck, O'Reilly, and Nelson (1993) by the following equation:



$$C(t) = C_0 e^{-(kt)}$$

Where,

$C(t)$  is concentration as a function of time ( $t$ )

$C_0$  = is concentration as  $t = 0$

$k$  = is the decay rate ( $t^{-1}$ )

For MW-4, the most contaminated well, the first order decay rates for TPHg and MTBE were 0.001/day ( $R^2 = 0.67$ ) and 0.0009/day ( $R^2 = 0.79$ ), respectively. The  $R^2$  values for MW-4 indicate that the equations fit the data well, and, thus, are suitable for extrapolation. For MW-2, the first order decay rates for TPHg and MTBE were 0.001/day ( $R^2 = 0.39$ ) and 0.0009/day ( $R^2 = 0.52$ ), respectively. The  $R^2$  values for MW-2 do not appear to represent as good a fit to the data as MW-4; however, visual inspection of the plot shows a qualitative decline in concentrations over time. Trends for other wells will be plotted as soon as a sufficient temporal data are suitable to remove the signature of groundwater levels on contaminant concentrations.

#### Project Status and Recommendations

- The site is currently being monitored on a quarterly basis per the HCDEH directives. The next quarterly sampling event is scheduled for November 2005. Groundwater samples will be analyzed for TPHg, BTEX, and MTBE.
- Blue Rock recommends deleting TPHd from the quarterly groundwater sampling schedule because it has not been detected in any of the water samples collected from the site over the past year.
- Table 6 shows the groundwater monitoring schedule.

#### References

Buscheck, T.E., O'Reilly, K.T., and Nelson, S.N. 1993. *Evaluation of Intrinsic Bioremediation at Field Sites*. Proceedings of the Conference of Petroleum Hydrocarbons and Organic Chemicals in Ground Water, National Groundwater Association/API, Houston, TX. November 10-12.



## Certification

This report was prepared under the supervision of a California Professional Geologist at Blue Rock. All statements, conclusions, and recommendations are based upon published results from past consultants, field observations by Blue Rock, and analyses performed by a state-certified laboratory as they relate to the time, location, and depth of points sampled by Blue Rock. Interpretation of data, including spatial distribution and temporal trends, are based on commonly used geologic and scientific principles. It is possible that interpretations, conclusions, and recommendations presented in this report may change, as additional data become available and/or regulations change.

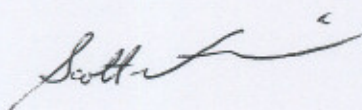
Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Blue Rock has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

If you have any questions regarding this project, please contact us at (707) 441-1934.

Sincerely,  
Blue Rock Environmental, Inc.

Prepared by:

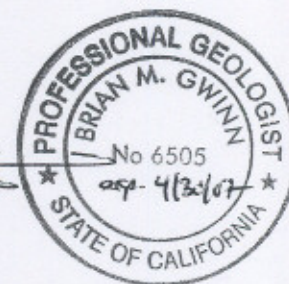


Scott Ferriman  
Project Scientist

Reviewed by:



Brian Gwinn, PG  
Principal Geologist





Attachments:

Table 1: Soil Analytical Data  
Table 2: Excavation Limits Soil Analytical Data  
Table 3: Groundwater Elevations and Analytical Results  
Table 4: Intrinsic Bioremediation Data  
Table 5: Well Construction Details  
Table 6: Groundwater Monitoring Schedule

Figure 1: Site Location Map  
Figure 2: Site Plan  
Figure 3a: Groundwater Elevation and Gradient – 6/28/05  
Figure 3b: Groundwater Elevation and Gradient – 8/1/05  
Figure 4a: Sorbed-Phase TPHd Distribution  
Figure 4b: Sorbed-Phase TPHg Distribution  
Figure 5a: Dissolved-Phase TPHd Distribution Map – 8/1/05  
Figure 5b: Dissolved-Phase TPHg Distribution Map – 8/1/05  
Figure 5c: Dissolved-Phase Benzene Distribution Map – 8/1/05  
Figure 5d: Dissolved-Phase MTBE Distribution Map – 8/1/05

Chart 1: MW-4 TPHg & GW Elev. Vs. Time  
Chart 2: MW-4 TPHg & MTBE vs. Time for ~Consistent GW Elev.  
Chart 3: MW-2 TPHg & MTBE vs. Time for ~Consistent GW Elev.

Soil Boring Log for B-9  
Soil Boring Log for B-10  
Soil Boring Log for B-11

Blue Rock's Gauge/Purge Calculations and Well Purging Data Field Sheets  
Laboratory Analytical Reports and Chain-of-Custody Forms

Distribution:

Ken Elliott  
PO Box 54  
Hydesville, CA 95547

Betty Kinoshita  
US Bank  
P.O. Box 3108  
Portland, OR 97208-3108



**Table 1**  
**SOIL ANALYTICAL DATA**  
 Elliott's Service Center  
 761 Eel River Drive  
 Loleta, California  
 Blue Rock Project # NC-002

| Sample ID       | Sample Depth<br>(feet bgs) | Sample<br>Date | TPHd<br>(mg/kg) | TPHg<br>(mg/kg) | Benzene<br>(mg/kg) | Toluene<br>(mg/kg) | Ethylbenzene<br>(mg/kg) | Xylenes<br>(mg/kg) | MTBE<br>(mg/kg) | DIPE<br>(mg/kg) | ETBE<br>(mg/kg) | TAME<br>(mg/kg) | TBA<br>(mg/kg) | Methanol<br>(mg/kg) | Ethanol<br>(mg/kg) |
|-----------------|----------------------------|----------------|-----------------|-----------------|--------------------|--------------------|-------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|----------------|---------------------|--------------------|
| Tank #1 West    | 5                          | 12/18/89       | --              | 30              | <0.05              | <0.05              | 0.11                    | 0.76               | --              | --              | --              | --              | --             | --                  | --                 |
| Tank #1 East    | 5                          | 12/18/89       | --              | 62              | <0.05              | <0.05              | <0.05                   | 0.71               | --              | --              | --              | --              | --             | --                  | --                 |
| Tank #3 North   | 5                          | 12/18/89       | --              | <1              | <0.05              | <0.05              | <0.05                   | <0.05              | --              | --              | --              | --              | --             | --                  | --                 |
| Tank #3 South   | 5                          | 12/18/89       | --              | <1              | <0.05              | <0.05              | <0.05                   | <0.05              | --              | --              | --              | --              | --             | --                  | --                 |
| Tank #4 Sidewal | 5                          | 12/18/89       | --              | 1.5             | <0.05              | <0.05              | <0.05                   | <0.05              | --              | --              | --              | --              | --             | --                  | --                 |
|                 |                            |                |                 |                 |                    |                    |                         |                    |                 |                 |                 |                 |                |                     |                    |
| B-1@5'          | 5                          | 11/20/96       | 14              | 2.1             | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-1@8'          | 8                          | 11/20/96       | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-1@13.5'       | 13.5                       | 11/20/96       | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-2@5.5'        | 5.5                        | 11/20/96       | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-2@10.5'       | 10.5                       | 11/20/96       | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-2@15'         | 15                         | 11/20/96       | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-3@5.5'        | 5.5                        | 11/20/96       | 6.5             | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-3@10.5'       | 10.5                       | 11/20/96       | 16              | 650             | <0.5               | <0.5               | 4.5                     | 5.1                | <5              | --              | --              | --              | --             | --                  | --                 |
| B-3@15.5'       | 15.5                       | 11/20/96       | <1              | 29              | 0.026              | <0.1               | 0.33                    | 1.34               | 0.12            | --              | --              | --              | --             | --                  | --                 |
| B-4@5.5'        | 5.5                        | 11/21/96       | --              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-5@5.5'        | 5.5                        | 11/21/96       | --              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-5@10.5'       | 10.5                       | 11/21/96       | --              | 1,100           | <0.5               | <0.5               | 16                      | 43.8               | <5              | --              | --              | --              | --             | --                  | --                 |
| B-5@15.5'       | 15.5                       | 11/21/96       | --              | 1.3             | 0.1                | <0.005             | 0.063                   | 0.17               | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-6@5.5'        | 5.5                        | 11/21/96       | --              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-6@10.5'       | 10.5                       | 11/21/96       | --              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-6@15.5'       | 15.5                       | 11/21/96       | --              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-7@5.5'        | 5.5                        | 11/21/96       | <1              | 3.6             | <0.005             | <0.005             | <0.02                   | <0.04              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-7@10.5'       | 10.5                       | 11/21/96       | <1              | 150             | <0.025             | <0.3               | <1                      | <4                 | <0.25           | --              | --              | --              | --             | --                  | --                 |
| B-7@15.5'       | 15.5                       | 11/21/96       | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.01              | <0.05           | --              | --              | --              | --             | --                  | --                 |
| B-8@3'          | 3                          | 12/12/96       | 34              | 200             | 0.11               | <0.6               | 2.7                     | <2                 | <0.5            | --              | --              | --              | --             | --                  | --                 |
| B-8@6'          | 6                          | 12/12/96       | 2.6             | 240             | 0.18               | <1                 | 3.6                     | <3.2               | <0.5            | --              | --              | --              | --             | --                  | --                 |
| B-9@5'          | 5                          | 6/28/05        | 2.1             | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| B-9@15'         | 15                         | 6/28/05        | 5.3             | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| B-9@18'         | 18                         | 6/28/05        | 25              | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |



Table 1  
SOIL ANALYTICAL DATA  
Elliott's Service Center  
761 Eel River Drive  
Loleta, California  
Blue Rock Project # NC-002

| Sample ID  | Sample Depth<br>(feet bgs) | Sample<br>Date | TPHd<br>(mg/kg) | TPHg<br>(mg/kg) | Benzene<br>(mg/kg) | Toluene<br>(mg/kg) | Ethylbenzene<br>(mg/kg) | Xylenes<br>(mg/kg) | MTBE<br>(mg/kg) | DIPE<br>(mg/kg) | ETBE<br>(mg/kg) | TAME<br>(mg/kg) | TBA<br>(mg/kg) | Methanol<br>(mg/kg) | Ethanol<br>(mg/kg) |
|------------|----------------------------|----------------|-----------------|-----------------|--------------------|--------------------|-------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|----------------|---------------------|--------------------|
| B-10@5'    | 5                          | 6/28/05        | 5.2             | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| B-10@15'   | 15                         | 6/28/05        | 1.2             | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| B-10@18'   | 18                         | 6/28/05        | 9               | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| B-11@5'    | 5                          | 6/28/05        | 1.2             | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| B-11@10'   | 10                         | 6/28/05        | 12              | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| B-11@14.5' | 14.5                       | 6/28/05        | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| MW-1@10'   | 10                         | 5/10/00        | <10             | <0.06           | <0.005             | <0.005             | <0.005                  | <0.015             | 0.005           | --              | --              | --              | --             | --                  | --                 |
| MW-2@10'   | 10                         | 5/10/00        | 15.9            | 16              | <0.005             | <0.005             | 0.049                   | 0.099              | 0.01            | --              | --              | --              | --             | --                  | --                 |
| MW-3@10'   | 10                         | 5/10/00        | <10             | <0.06           | <0.005             | <0.005             | 0.019                   | <0.015             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| MW-4@10.5' | 10.5                       | 5/10/00        | 11.7            | <0.06           | <0.005             | <0.005             | <0.005                  | <0.015             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| MW-5       | 5.5                        | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.015             | <0.005          | <0.005          | <0.005          | <0.005          | <0.025         | <0.4                | <0.05              |
|            | 10.5                       | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.01          | <0.2                | <0.02              |
|            | 15.5                       | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
|            | 20                         | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
| MW-6       | 5.5                        | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.015             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
|            | 10.5                       | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
|            | 15.5                       | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
| MW-7       | 5                          | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.015             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
|            | 9.5                        | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
|            | 14.5                       | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
|            | 19.5                       | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |



**Table 1**  
**SOIL ANALYTICAL DATA**  
 Elliott's Service Center  
 761 Eel River Drive  
 Loleta, California  
 Blue Rock Project # NC-002

| Sample ID | Sample Depth<br>(feet bgs) | Sample<br>Date | TPHd<br>(mg/kg) | TPHg<br>(mg/kg) | Benzene<br>(mg/kg) | Toluene<br>(mg/kg) | Ethylbenzene<br>(mg/kg) | Xylenes<br>(mg/kg) | MTBE<br>(mg/kg) | DIPE<br>(mg/kg) | ETBE<br>(mg/kg) | TAME<br>(mg/kg) | TBA<br>(mg/kg) | Methanol<br>(mg/kg) | Ethanol<br>(mg/kg) |
|-----------|----------------------------|----------------|-----------------|-----------------|--------------------|--------------------|-------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|----------------|---------------------|--------------------|
| MW-8      | 5                          | 8/8/01         | <5.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.015             | <0.005          | <0.005          | <0.005          | <0.005          | <0.025         | <1.0                | <0.05              |
|           | 10.5                       | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
|           | 15.5                       | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
|           | 20.5                       | 8/8/01         | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | <0.005          | <0.005          | <0.005          | <0.005         | <0.2                | <0.01              |
| MW-9      | 5                          | 6/16/04        | 420             | 2.6             | 0.0066             | <0.005             | <0.005                  | 0.021              | <0.005          | --              | --              | --              | --             | --                  | --                 |
|           | 10                         | 6/16/04        | <1.0            | 3.2             | <0.005             | <0.005             | 0.0058                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
|           | 15                         | 6/16/04        | <1.0            | 3.7             | 0.05               | <0.005             | 0.15                    | 0.52               | <0.005          | --              | --              | --              | --             | --                  | --                 |
|           | 20                         | 6/16/04        | <1.0            | <1.0            | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          | --              | --              | --              | --             | --                  | --                 |
| MW-10     | 5                          | 6/16/04        | 12              | 1.2             | 0.0095             | <0.005             | <0.005                  | 0.016              | <0.005          | --              | --              | --              | --             | --                  | --                 |
|           | 10                         | 6/16/04        | 56              | 200             | 0.14               | 0.047              | 2.5                     | 7.0                | 0.011           | --              | --              | --              | --             | --                  | --                 |
|           | 15                         | 6/16/04        | <1.0            | 3.9             | 0.21               | <0.005             | 0.16                    | 0.46               | <0.005          | --              | --              | --              | --             | --                  | --                 |

**Notes**

bgs: below ground surface

mg/kg = milligrams per kilogram=ppm=parts per million

<###: Not detected above the method detection limit as shown.

TPHd: Total Petroleum Hydrocarbons as Diesel by EPA Method 3550/8015M

TPHg: Total Petroleum Hydrocarbons as Gasoline by EPA Method 5030/8015M and 5030/8260B

BTEX by EPA Method 8020 and 8260B

"--" Not analyzed, available or applicable

MTBE: Methyl tertiary butyl ether by EPA 8020 and 8260B

ETBE: Ethyl tertiary butyl ether by EPA 8260B

TAME: tertiary amyl methyl ether by EPA 8260B

DIPE: Diisopropyl ether by EPA 8260B

TBA: Tert butanol by EPA 8260B

Methanol: by EPA Method 8260B

Ethanol: by EPA method 8260B



**Table 2**  
**EXCAVATION LIMITS SOIL ANALYTICAL DATA**

Elliot's Service Center  
761 Eel River drive  
Loleta, California  
Blue Rock Project # NC-002

| Sample ID           | Sample Depth<br>(feet bgs) | Sample<br>Date | TPHd<br>(mg/kg) | TPHg<br>(mg/kg) | Benzene<br>(mg/kg) | Toluene<br>(mg/kg) | Ethylbenzene<br>(mg/kg) | Xylenes<br>(mg/kg) | MTBE<br>(mg/kg) |
|---------------------|----------------------------|----------------|-----------------|-----------------|--------------------|--------------------|-------------------------|--------------------|-----------------|
| Excavation Bottom   |                            |                |                 |                 |                    |                    |                         |                    |                 |
| EB-1 @10.5'         | 10.5                       | 12/8/03        | 3.0             | 19              | <0.005             | <0.005             | 0.19                    | 0.012              | 0.0093          |
| EB-2 @ 15'          | 15                         | 12/9/03        | <1              | <1              | 0.0069             | <0.005             | <0.005                  | <0.005             | 0.054           |
| Excavation Sidewall |                            |                |                 |                 |                    |                    |                         |                    |                 |
| SW-1 @10'           | 10                         | 12/8/03        | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          |
| SW-2 @ 10'          | 10                         | 12/8/03        | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          |
| SW-3 @10'           | 10                         | 12/9/03        | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          |
| SW-4 @10'           | 10                         | 12/9/03        | 12              | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | 0.013           |
| SW-5 @10'           | 10                         | 12/9/03        | 150             | 75              | <0.005             | <0.005             | 0.70                    | 1.4                | 0.10            |
| SW-6 @10'           | 10                         | 12/10/03       | 1.1             | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          |
| SW-7 @10'           | 10                         | 12/10/03       | <1              | <1              | <0.005             | <0.005             | <0.005                  | <0.005             | <0.005          |

**Notes**

bgs: below ground surface

mg/kg = milligrams per kilogram=ppm=parts per million

<###: Not detected above the method detection limit as shown.

TPHd: Total Petroleum Hydrocarbons as Diesel by EPA Method 3550/8015M

TPHg: Total Petroleum Hydrocarbons as Gasoline by EPA Method 5030/8260B

BTEX by EPA Method 8260B

MTBE:Methyl tertiary butyl ether by EPA 8260B



**Table 3**  
**GROUNDWATER ELEVATIONS AND**  
**ANALYTICAL RESULTS**

Elliott's Service Center  
761 Eel River Drive  
Loleta, California  
Blue Rock Project No. NC-002

| Well No. | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | TBA (µg/L) | Methanol (µg/L) | Ethanol (µg/L) |
|----------|---------------|------------|------------|------------|-------------|-------------|--------------|----------------|----------------|---------------------|----------------|-------------|-------------|-------------|-------------|------------|-----------------|----------------|
| Tank#3   | 12/18/89      | --         | --         | --         | 24,000      | --          | --           | <48            | 140            | 130                 | 910            | --          | --          | --          | --          | --         | --              | --             |
| Tank#4   | 12/18/89      | --         | --         | --         | 26,000      | --          | --           | 680            | 850            | 670                 | 2,500          | --          | --          | --          | --          | --         | --              | --             |
| B-6      | 11/21/96      | --         | --         | --         | 53          | --          | --           | <0.5           | <0.5           | <0.5                | <1             | <5          | --          | --          | --          | --         | --              | --             |
| B-7      | 11/21/96      | --         | --         | --         | 4,200       | 93          | --           | 39             | <5             | 220                 | 290            | <50         | --          | --          | --          | --         | --              | --             |
| B-9      | 6/28/05       | 26.47      | 12.83      | 13.64      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 2.1         | --          | --          | --          | --         | --              | --             |
| B-10     | 6/28/05       | 30.47      | 19.48      | 10.99      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 18          | --          | --          | --          | --         | --              | --             |
| B-11     | 6/28/05       | 27.69      | 12.41      | 15.28      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 3           | --          | --          | --          | --         | --              | --             |
| MW-1     | 5/15/00       | 98.88      | 10.21      | 88.67      | <50         | <50         | --           | <0.3           | <0.3           | 0.5                 | <0.6           | 6.4         | <0.5        | <0.5        | 0.5         | <500       | --              | --             |
|          | 8/23/00       | 98.88      | 12.31      | 86.57      | <50         | <50         | <50          | 0.54           | <0.5           | <0.5                | <0.5           | 11          | --          | --          | 0.98        | --         | <50             | <5             |
| Screen   | 10/30/00      | 98.88      | 12.78      | 86.10      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
| 5'-20'   | 11/16/00      | 98.88      | 12.58      | 86.30      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 4.8         | <0.5        | <0.5        | <0.5        | <5         | <50             | <5             |
|          | 12/7/01       | 98.88      | 12.23      | 86.65      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 1/22/01       | 98.88      | 12.17      | 86.71      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 2/6/01        | 98.88      | 11.69      | 87.19      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 23          | <0.5        | <0.5        | 2.7         | <5         | <50             | <5             |
|          | 3/8/01        | 98.88      | 10.75      | 88.13      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 5/11/01       | 98.88      | 12.01      | 86.87      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 6/12/01       | 98.88      | 12.81      | 86.07      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 7/20/01       | 98.88      | 14.12      | 84.76      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 8/15/01       | 98.88      | 14.91      | 83.97      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.6         | <0.5        | <0.5        | <0.5        | <5         | <50             | <5.0           |
|          | 11/2/01       | 98.88      | 16.18      | 82.70      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.51        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|          | 2/1/02        | 98.88      | 11.89      | 86.99      | 80          | --          | --           | 2.5            | <0.5           | <0.5                | <0.5           | 33          | <0.5        | <0.5        | 6.3         | <5         | --              | --             |
|          | 5/8/02        | 98.88      | 11.98      | 86.90      | 130         | 320         | --           | 4.7            | <0.5           | <0.5                | <0.5           | 58          | <0.5        | <0.5        | 11          | <5         | --              | --             |
|          | 8/14/02       | 29.57      | 15.33      | 14.24      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.7         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|          | 11/13/02      | 29.57      | 16.58      | 12.99      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.7         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|          | 2/25/03       | 29.57      | 11.65      | 17.92      | 210         | <200        | --           | 10             | <0.5           | <0.5                | <0.5           | 71          | <0.5        | <0.5        | 12          | <5         | --              | --             |
|          | 5/9/03        | 29.57      | 10.18      | 19.39      | 150         | 340         | --           | 4.2            | <0.5           | <0.5                | <0.5           | 39          | <0.5        | <0.5        | 6.4         | <5         | --              | --             |
|          | 8/18/03       | 29.57      | 12.71      | 16.86      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 2.5         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|          | 11/7/03       | 29.57      | 14.74      | 14.83      | <50         | 93          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 3.4         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|          | 2/11/04       | 29.57      | 10.50      | 19.07      | <50         | 230         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 43          | <0.5        | <0.5        | 1.8         | <5         | --              | --             |
|          | 5/4/04        | 29.57      | 11.55      | 18.02      | 68          | <50         | --           | <0.5           | <0.5           | <0.5                | <1             | 85          | <0.5        | <0.5        | 2.9         | <5         | --              | --             |
|          | 7/27/04       | 29.57      | 14.44      | 15.13      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 7.4         | --          | --          | --          | --         | --              | --             |
|          | 11/5/04       | 29.57      | 13.14      | 16.43      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 43          | --          | --          | --          | --         | --              | --             |
|          | 2/2/05        | 29.57      | 10.99      | 18.58      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 76          | --          | --          | --          | --         | --              | --             |
|          | 5/6/05        | 29.57      | 11.36      | 18.21      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 37          | --          | --          | --          | --         | --              | --             |
|          | 6/28/05       | 29.57      | 12.20      | 17.37      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 8/1/05        | 29.57      | 13.15      | 16.42      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 7.8         | --          | --          | --          | --         | --              | --             |



**Table 3**  
**GROUNDWATER ELEVATIONS AND**  
**ANALYTICAL RESULTS**

Elliott's Service Center  
761 Eel River Drive  
Loleta, California  
Blue Rock Project No. NC-002

| Well No.      | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | TBA (µg/L) | Methanol (µg/L) | Ethanol (µg/L) |
|---------------|---------------|------------|------------|------------|-------------|-------------|--------------|----------------|----------------|---------------------|----------------|-------------|-------------|-------------|-------------|------------|-----------------|----------------|
| MW-2          | 5/15/00       | 98.10      | 10.35      | 87.75      | 708         | 186         | --           | <0.3           | 7.7            | 19.2                | 152            | 27.2        | <0.5        | <0.5        | <0.5        | <500       | --              | --             |
|               | 8/23/00       | 98.10      | 12.32      | 85.78      | 2,200       | 241         | <50          | 8.9            | 11             | 72                  | 410            | 79          | --          | --          | 1.3         | --         | <50             | <5             |
| Screen 5'-20' | 10/30/00      | 98.10      | 12.59      | 85.51      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 11/16/00      | 98.10      | 12.35      | 85.75      | 1,600       | 226         | --           | 4.9            | 1.1            | 46                  | 240            | 38          | <0.5        | <0.5        | 0.57        | 11         | <50             | <5             |
|               | 12/7/01       | 98.10      | 11.99      | 86.11      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 1/22/01       | 98.10      | 11.96      | 86.14      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 2/6/01        | 98.10      | 11.49      | 86.61      | 1,600       | <200        | --           | 2.3            | 3.0            | 31                  | 230            | 35          | <0.5        | <0.5        | 0.77        | 6.8        | <50             | <5             |
|               | 3/8/01        | 98.10      | 10.38      | 87.72      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 5/11/01       | 98.10      | 11.79      | 86.31      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 6/12/01       | 98.10      | 12.59      | 85.51      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 7/20/01       | 98.10      | 13.95      | 84.15      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 8/15/01       | 98.10      | 14.73      | 83.37      | 310         | <100        | --           | 1.7            | <0.5           | 3.6                 | 8.4            | 39          | <0.5        | <0.5        | 1.1         | 7.4        | <50             | <5.0           |
|               | 11/2/01       | 98.10      | 16.02      | 82.08      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 7.1         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 2/1/02        | 98.10      | 11.73      | 86.37      | 4,200       | --          | --           | 4.6            | 5.5            | 110                 | 450            | 68          | <0.5        | <0.5        | 2.8         | 17         | --              | --             |
|               | 5/8/02        | 98.10      | 11.79      | 86.31      | 8,800       | <500        | --           | 19             | 18             | 290                 | 1,200          | 150         | <0.5        | <0.5        | 4.9         | 30         | --              | --             |
|               | 8/14/02       | 28.81      | 15.17      | 13.64      | 270         | <100        | --           | 1              | 0.53           | 11                  | 14             | 53          | <0.5        | <0.5        | 2           | 9.5        | --              | --             |
|               | 11/13/02      | 28.81      | 16.44      | 12.37      | 610         | <100        | --           | <0.5           | 0.55           | 8.1                 | 32             | 7.4         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 2/25/03       | 28.81      | 11.46      | 17.35      | 6,400       | <2,200      | --           | 4.2            | 6.9            | 160                 | 490            | 89          | <0.5        | <0.5        | 3.8         | 15         | --              | --             |
|               | 5/9/03        | 28.81      | 9.97       | 18.84      | 18,000      | <3,000      | --           | 6.1            | 21             | 480                 | 1,800          | 100         | <2.5        | <2.5        | 4.2         | <25        | --              | --             |
|               | 8/18/03       | 28.81      | 12.48      | 16.33      | 570         | <200        | --           | 0.9            | <0.5           | 19                  | 48             | 28          | <0.5        | <0.5        | 1.3         | <5         | --              | --             |
|               | 11/7/03       | 28.81      | 14.49      | 14.32      | 3,500       | <600        | --           | 4.6            | 1.6            | 130                 | 200            | 130         | <0.5        | <0.5        | 6.5         | 18         | --              | --             |
|               | 2/11/04       | 28.81      | 10.31      | 18.50      | 21,000      | <3,000      | --           | 41             | 41             | 520                 | 2,100          | 110         | <5          | <5          | <5          | <50        | --              | --             |
|               | 5/4/04        | 28.81      | 11.36      | 17.45      | 13,000      | 840*        | --           | 9.7            | 19             | 470                 | 1,750          | 72          | <5          | <5          | <5          | <50        | --              | --             |
|               | 7/27/04       | 28.81      | 14.22      | 14.59      | 880         | <300        | --           | 2.7            | 0.55           | 28                  | 15             | 82          | --          | --          | --          | --         | --              | --             |
|               | 11/5/04       | 28.81      | 12.89      | 15.92      | 350         | <100        | --           | <0.5           | <0.5           | 12                  | 15             | 29          | --          | --          | --          | --         | --              | --             |
|               | 2/2/05        | 28.81      | 10.74      | 18.07      | 4,900       | <200        | --           | 4.5            | 5.8            | 160                 | 390            | 35          | --          | --          | --          | --         | --              | --             |
|               | 5/6/05        | 28.81      | 11.13      | 17.68      | 3,300       | <80         | --           | 13             | 3.3            | 94                  | 250            | 44          | --          | --          | --          | --         | --              | --             |
|               | 6/28/05       | 28.81      | 11.97      | 16.84      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 8/1/05        | 28.81      | 12.91      | 15.90      | 770         | <80         | --           | 0.56           | <0.5           | 26                  | 44             | 9.6         | --          | --          | --          | --         | --              | --             |



**Table 3**  
**GROUNDWATER ELEVATIONS AND**  
**ANALYTICAL RESULTS**

Elliott's Service Center  
761 Eel River Drive  
Loleta, California  
Blue Rock Project No. NC-002

| Well No.      | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | TBA (µg/L) | Methanol (µg/L) | Ethanol (µg/L) |
|---------------|---------------|------------|------------|------------|-------------|-------------|--------------|----------------|----------------|---------------------|----------------|-------------|-------------|-------------|-------------|------------|-----------------|----------------|
| MW-3          | 5/15/00       | 98.05      | 10.46      | 87.59      | <50         | <50         | --           | <0.3           | <0.3           | <0.3                | <0.6           | <2          | <0.5        | <0.5        | <0.5        | <500       | --              | --             |
|               | 8/23/00       | 98.05      | 12.46      | 85.59      | <50         | <50         | <50          | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | --          | --          | <0.5        | --         | <50             | <5             |
| Screen 5'-20' | 10/30/00      | 98.05      | 12.71      | 85.34      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 11/16/00      | 98.05      | 12.47      | 85.58      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.7         | <0.5        | <0.5        | <0.5        | <5         | <50             | <5             |
|               | 12/7/01       | 98.05      | 12.11      | 85.94      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 1/22/01       | 98.05      | 12.06      | 85.99      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 2/6/01        | 98.05      | 11.58      | 86.47      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.51        | <0.5        | <0.5        | <0.5        | <5         | <50             | <5             |
|               | 3/8/01        | 98.05      | 10.41      | 87.64      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 5/11/01       | 98.05      | 11.88      | 86.17      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 6/12/01       | 98.05      | 12.71      | 85.34      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 7/20/01       | 98.05      | 14.08      | 83.97      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 8/15/01       | 98.05      | 14.88      | 83.17      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.56        | <0.5        | <0.5        | <0.5        | <5         | <50             | <5             |
|               | 11/2/01       | 98.05      | 16.17      | 81.88      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 2/1/02        | 98.05      | 11.84      | 86.21      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 5/8/02        | 98.05      | 11.90      | 86.15      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 8/14/02       | 28.75      | 15.33      | 13.42      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 11/13/02      | 28.75      | 16.70      | 12.05      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 2/25/03       | 28.75      | 11.55      | 17.20      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 5/9/03        | 28.75      | 10.00      | 18.75      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 8/18/03       | 28.75      | 12.58      | 16.17      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 11/7/03       | 28.75      | 14.62      | 14.13      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 2/11/04       | 28.75      | 10.39      | 18.36      | <50         | 180         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 5/4/04        | 28.75      | 11.45      | 17.30      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <1             | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|               | 7/27/04       | 28.75      | 14.38      | 14.37      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 11/5/04       | 28.75      | 13.07      | 15.68      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 2/2/05        | 28.75      | 10.83      | 17.92      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 5/6/05        | 28.75      | 11.21      | 17.54      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 6/28/05       | 28.75      | 12.10      | 16.65      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|               | 8/1/05        | 28.75      | 13.04      | 15.71      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |



**Table 3**  
**GROUNDWATER ELEVATIONS AND**  
**ANALYTICAL RESULTS**

Elliott's Service Center  
761 Eel River Drive  
Loleta, California  
Blue Rock Project No. NC-002

| Well No. | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | TBA (µg/L) | Methanol (µg/L) | Ethanol (µg/L) |
|----------|---------------|------------|------------|------------|-------------|-------------|--------------|----------------|----------------|---------------------|----------------|-------------|-------------|-------------|-------------|------------|-----------------|----------------|
| MW-4     | 5/15/00       | 98.43      | 10.27      | 88.16      | 3,390       | 1,490       | --           | 13             | 6              | 350                 | 326            | <2          | <0.5        | <0.5        | <0.5        | <500       | --              | --             |
|          | 8/23/00       | 98.43      | 12.33      | 86.10      | 15,000      | 1,550       | <50          | 43             | 15             | 780                 | 770            | 3.0         | --          | --          | <2          | --         | <200            | <20            |
| Screen   | 10/30/00      | 98.43      | 12.64      | 85.79      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 11/16/00      | 98.43      | 12.38      | 86.05      | 10,000      | 1,800       | --           | 20             | 7.4            | 410                 | 420            | 5.2         | <2          | <2          | <2          | <20        | <200            | <20            |
| 5'-20'   | 12/7/01       | 98.43      | 12.03      | 86.40      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 1/22/01       | 98.43      | 12.01      | 86.42      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 2/5/01        | 98.43      | 11.52      | 86.91      | 15,000      | <800        | --           | 32             | 14             | 720                 | 830            | 5.9         | <2          | <2          | <2          | <20        | <200            | <20            |
|          | 3/8/01        | 98.43      | 10.40      | 88.03      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 5/11/01       | 98.43      | 11.83      | 86.60      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 6/12/01       | 98.43      | 12.63      | 85.80      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 7/20/01       | 98.43      | 13.96      | 84.47      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 8/15/01       | 98.43      | 14.76      | 83.67      | 3,400       | <1,000      | --           | 13             | 3.4            | 220                 | 180            | 3           | <1.0        | <1.0        | <1.0        | 16         | <100            | <10            |
|          | 11/2/01       | 98.43      | 16.04      | 82.39      | 53          | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1           | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|          | 2/1/02        | 98.43      | 11.72      | 86.71      | 14,000      | --          | --           | 22             | 14             | 640                 | 980            | 3.3         | <2.5        | <2.5        | <2.5        | <25        | --              | --             |
|          | 5/8/02        | 98.43      | 11.80      | 86.63      | 8,100       | <1,000      | --           | 15             | 6.5            | 340                 | 530            | 2.9         | <1.0        | <1.0        | <1.0        | 15         | --              | --             |
|          | 8/14/02       | 29.14      | 15.19      | 13.95      | 1,700       | <250        | --           | 5.8            | 0.81           | 53                  | 11             | <1.5        | <0.5        | <0.5        | <0.5        | 7.4        | --              | --             |
|          | 11/13/02      | 29.14      | 16.46      | 12.68      | 510         | <50         | --           | 1.5            | <0.5           | 15                  | 4.6            | <0.5        | <0.5        | <0.5        | <0.5        | <5.0       | --              | --             |
|          | 2/25/03       | 29.14      | 11.46      | 17.68      | 6,600       | <2,000      | --           | 16             | 4.3            | 170                 | 200            | 2.9         | <0.5        | <0.5        | <0.5        | 19         | --              | --             |
|          | 5/9/03        | 29.14      | 9.98       | 19.16      | 6,700       | <2,000      | --           | 16             | 5.4            | 350                 | 250            | 3.4         | <1          | <1          | <1          | 21         | --              | --             |
|          | 8/18/03       | 29.14      | 12.53      | 16.61      | 4,000       | <1,500      | --           | 8              | 2.2            | 110                 | 150            | 1.5         | <0.5        | <0.5        | <0.5        | 8.7        | --              | --             |
|          | 11/7/03       | 29.14      | 14.55      | 14.59      | 3,000       | <800        | --           | 7.6            | 0.71           | 81                  | 36             | 1.4         | <0.5        | <0.5        | <0.5        | 9.2        | --              | --             |
|          | 2/11/04       | 29.14      | 10.34      | 18.80      | 23,000      | <5,000      | --           | 29             | 17             | 1,100               | 1,400          | <5          | <5          | <5          | <5          | <50        | --              | --             |
|          | 5/4/04        | 29.14      | 11.37      | 17.77      | 31,000      | 5,700*      | --           | <50            | <50            | 1,700               | 2,250          | <50         | <50         | <50         | <50         | <500       | --              | --             |
|          | 7/27/04       | 29.14      | 14.27      | 14.87      | 870         | <300        | --           | 3.6            | 0.56           | 35                  | 9.5            | 0.64        | --          | --          | --          | --         | --              | --             |
|          | 11/5/04       | 29.14      | 12.97      | 16.17      | 1,300       | <400        | --           | 5.2            | 0.58           | 16                  | 22             | 0.66        | --          | --          | --          | --         | --              | --             |
|          | 2/2/05        | 29.14      | 10.78      | 18.36      | 20,000      | <200        | --           | 21             | 9.9            | 920                 | 920            | <2.5        | --          | --          | --          | --         | --              | --             |
|          | 5/6/05        | 29.14      | 11.16      | 17.98      | 13,000      | <500        | --           | 16             | 7.8            | 570                 | 580            | <2.5        | --          | --          | --          | --         | --              | --             |
|          | 6/28/05       | 29.14      | 12.02      | 17.12      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|          | 8/1/05        | 29.14      | 12.97      | 16.17      | 4,400       | <300        | --           | 10             | 2.8            | 160                 | 170            | 1.2         | --          | --          | --          | --         | --              | --             |



**Table 3**  
**GROUNDWATER ELEVATIONS AND**  
**ANALYTICAL RESULTS**

Elliott's Service Center  
761 Eel River Drive  
Loleta, California  
Blue Rock Project No. NC-002

| Well No.                 | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | TBA (µg/L) | Methanol (µg/L) | Ethanol (µg/L) |
|--------------------------|---------------|------------|------------|------------|-------------|-------------|--------------|----------------|----------------|---------------------|----------------|-------------|-------------|-------------|-------------|------------|-----------------|----------------|
| MW-5<br>Screen<br>5'-25' | 8/15/01       | 97.54      | 14.23      | 83.31      | <50         | 150         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 2           | <0.5        | <0.5        | <0.5        | <5         | <50             | <5             |
|                          | 11/2/01       | 97.54      | 15.53      | 82.01      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.7         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/1/02        | 97.54      | 11.42      | 86.12      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.2         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/8/02        | 97.54      | 11.52      | 86.02      | <50         | 72          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.2         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 8/14/02       | 28.28      | 14.72      | 13.56      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.8         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 11/13/02      | 28.28      | 15.92      | 12.36      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.7         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/25/03       | 28.28      | 11.23      | 17.05      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.93        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/9/03        | 28.28      | 9.89       | 18.39      | <50         | 110         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.5         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 8/18/03       | 28.28      | 12.17      | 16.11      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.91        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 11/7/03       | 28.28      | 14.11      | 14.17      | <50         | 130         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.3         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/11/04       | 28.28      | 10.18      | 18.10      | <50         | 140         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.2         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/4/04        | 28.28      | 11.13      | 17.15      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <1             | 0.6         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 7/27/04       | 28.28      | 13.81      | 14.47      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.6         | --          | --          | --          | --         | --              | --             |
|                          | 11/5/04       | 28.28      | 12.54      | 15.74      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 2/2/05        | 28.28      | 10.57      | 17.71      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.73        | --          | --          | --          | --         | --              | --             |
|                          | 5/6/05        | 28.28      | 10.92      | 17.36      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 6/28/05       | 28.28      | 11.68      | 16.60      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 8/1/05        | 28.28      | 12.54      | 15.74      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.5         | --          | --          | --          | --         | --              | --             |
| MW-6<br>Screen<br>5'-25' | 8/15/01       | 97.90      | 15.02      | 82.88      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 3.9         | <0.5        | <0.5        | <0.5        | <5         | <50             | <5             |
|                          | 11/2/01       | 97.90      | 16.28      | 81.62      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.4         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/1/02        | 97.90      | 11.95      | 85.95      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.1         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/8/02        | 97.90      | 12.04      | 85.86      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.2         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 8/14/02       | 28.58      | 15.46      | 13.12      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.7         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 11/13/02      | 28.58      | 16.73      | 11.85      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 2.7         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/25/03       | 28.58      | 11.67      | 16.91      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.4         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/9/03        | 28.58      | 10.19      | 18.39      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.85        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 8/18/03       | 28.58      | 12.70      | 15.88      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.72        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 11/7/03       | 28.58      | 14.76      | 13.82      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.96        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/11/04       | 28.58      | 10.57      | 18.01      | <50         | 160         | --           | 0.84           | <0.5           | <0.5                | 1.4            | 2.3         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/4/04        | 28.58      | 11.62      | 16.96      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <1             | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 7/27/04       | 28.58      | 14.51      | 14.07      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.3         | --          | --          | --          | --         | --              | --             |
|                          | 11/5/04       | 28.58      | 13.17      | 15.41      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 2/2/05        | 28.58      | 10.97      | 17.61      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | --          | --          | --          | --         | --              | --             |
|                          | 5/6/05        | 28.58      | 11.37      | 17.21      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 6/28/05       | 28.58      | 12.24      | 16.34      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 8/1/05        | 28.58      | 13.17      | 15.41      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | --          | --          | --          | --         | --              | --             |



**Table 3**  
**GROUNDWATER ELEVATIONS AND**  
**ANALYTICAL RESULTS**

Elliott's Service Center  
761 Eel River Drive  
Loleta, California  
Blue Rock Project No. NC-002

| Well No.                 | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | TBA (µg/L) | Methanol (µg/L) | Ethanol (µg/L) |
|--------------------------|---------------|------------|------------|------------|-------------|-------------|--------------|----------------|----------------|---------------------|----------------|-------------|-------------|-------------|-------------|------------|-----------------|----------------|
| MW-7<br>Screen<br>5'-25' | 8/15/01       | 98.61      | 19.11      | 79.50      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.7         | <0.5        | <0.5        | <0.5        | <5         | <50             | <5             |
|                          | 11/2/01       | 98.61      | 20.63      | 77.98      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.8         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/1/02        | 98.61      | 15.53      | 83.08      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.1         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/8/02        | 98.61      | 15.63      | 82.98      | <50         | 76          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 2.0         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 8/14/02       | 29.29      | 19.93      | 9.36       | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.3         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 11/13/02      | 29.29      | 21.62      | 7.67       | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.93        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/25/03       | 29.29      | 15.21      | 14.08      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.0         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/9/03        | 29.29      | 13.24      | 16.05      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.81        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 8/18/03       | 29.29      | 16.41      | 12.88      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 1.2         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 11/7/03       | 29.29      | 18.63      | 10.66      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/11/04       | 29.29      | 14.01      | 15.28      | <50         | 140         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/4/04        | 29.29      | 15.38      | 13.91      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <1             | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 7/27/04       | 29.29      | 18.76      | 10.53      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | --          | --          | --          | --         | --              | --             |
|                          | 11/5/04       | 29.29      | 17.09      | 12.20      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 2/2/05        | 29.29      | 14.25      | 15.04      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | --          | --          | --          | --         | --              | --             |
|                          | 5/6/05        | 29.29      | 14.80      | 14.49      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 6/28/05       | 29.29      | 16.02      | 13.27      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 8/1/05        | 29.29      | 17.17      | 12.12      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | --          | --          | --          | --         | --              | --             |
| MW-8<br>Screen<br>5'-25' | 8/15/01       | 98.20      | 14.99      | 83.21      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | <50             | <5             |
|                          | 11/2/01       | 98.20      | 16.26      | 81.94      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.61        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/1/02        | 98.20      | 11.94      | 86.26      | <50         | --          | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.65        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/8/02        | 98.20      | 11.95      | 86.25      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 8/14/02       | 28.89      | 15.41      | 13.48      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.63        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 11/13/02      | 28.89      | 16.71      | 12.18      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.57        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/25/03       | 28.89      | 11.63      | 17.26      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/9/03        | 28.89      | 10.06      | 18.83      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | 0.6         | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 8/18/03       | 28.89      | 12.68      | 16.21      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 11/7/03       | 28.89      | 14.74      | 14.15      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 2/11/04       | 28.89      | 10.45      | 18.44      | <50         | 170         | --           | <0.5           | <0.5           | <0.5                | <0.5           | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 5/4/04        | 28.89      | 11.52      | 17.37      | <50         | <50         | --           | <0.5           | <0.5           | <0.5                | <1             | <0.5        | <0.5        | <0.5        | <0.5        | <5         | --              | --             |
|                          | 7/27/04       | 28.89      | 14.47      | 14.42      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 11/5/04       | 28.89      | 13.17      | 15.72      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 2/2/05        | 28.89      | 10.91      | 17.98      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 5/6/05        | 28.89      | 11.30      | 17.59      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 6/28/05       | 28.89      | 12.18      | 16.71      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                          | 8/1/05        | 28.89      | 13.13      | 15.76      | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |



**Table 3**  
**GROUNDWATER ELEVATIONS AND**  
**ANALYTICAL RESULTS**

Elliott's Service Center  
761 Eel River Drive  
Loleta, California  
Blue Rock Project No. NC-002

| Well No.                  | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet)             | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) | TBA (µg/L) | Methanol (µg/L) | Ethanol (µg/L) |
|---------------------------|---------------|------------|------------|------------------------|-------------|-------------|--------------|----------------|----------------|---------------------|----------------|-------------|-------------|-------------|-------------|------------|-----------------|----------------|
| MW-9<br>Screen<br>5'-25'  | 7/27/04       | 28.28      | 13.94      | 14.34                  | 150         | <100        | --           | 0.88           | <0.5           | 1.4                 | 16             | 0.68        | --          | --          | --          | --         | --              | --             |
|                           | 11/5/04       | 28.28      | 12.64      | 15.64                  | 140         | <50         | --           | 1.0            | <0.5           | 3.2                 | 9.4            | 0.81        | --          | --          | --          | --         | --              | --             |
|                           | 2/2/05        | 28.28      | 10.53      | 17.75                  | 440         | <50         | --           | 4.8            | 1.1            | 8.7                 | 51             | 7.9         | --          | --          | --          | --         | --              | --             |
|                           | 5/6/05        | 28.28      | 10.90      | 17.38                  | 1,800       | <50         | --           | 18             | 6.5            | 46                  | 200            | 12          | --          | --          | --          | --         | --              | --             |
|                           | 6/28/05       | 28.28      | 11.73      | 16.55                  | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                           | 8/1/05        | 28.28      | 12.64      | 15.64                  | 550         | <80         | --           | 6.3            | 1.2            | 13                  | 42             | 1.3         | --          | --          | --          | --         | --              | --             |
| MW-10<br>Screen<br>5'-25' | 7/27/04       | 28.78      | 13.70      | 15.08                  | 84          | <50         | --           | 1.9            | <0.5           | 0.52                | 5.7            | <0.5        | --          | --          | --          | --         | --              | --             |
|                           | 11/5/04       | 28.78      | 12.42      | 16.36                  | 1,200       | <200        | --           | 43             | 1.2            | 12                  | 120            | <0.5        | --          | --          | --          | --         | --              | --             |
|                           | 2/2/05        | 28.78      | 10.28      | 18.50                  | 180         | <50         | --           | 11             | <0.5           | 1.1                 | 19             | <0.5        | --          | --          | --          | --         | --              | --             |
|                           | 5/6/05        | 28.78      | 10.65      | 18.13                  | 140         | <50         | --           | 6.4            | <0.5           | 2.0                 | 14             | <0.5        | --          | --          | --          | --         | --              | --             |
|                           | 6/28/05       | 28.78      | 11.50      | 17.28                  | --          | --          | --           | --             | --             | --                  | --             | --          | --          | --          | --          | --         | --              | --             |
|                           | 8/1/05        | 28.78      | 12.45      | 16.33                  | 180         | <50         | --           | 9.5            | <0.5           | 2.7                 | 17             | <0.5        | --          | --          | --          | --         | --              | --             |
| PZ-1                      | 5/15/00       | --         | --         | --                     | <50         | 206         | --           | <0.3           | <0.3           | 0.6                 | 0.8            | <2          | <0.5        | <0.5        | <0.5        | <500       | --              | --             |
|                           |               |            |            | MCL                    | --          | --          | --           | 1              | 150            | 300                 | 1,750          | 13          |             |             |             |            |                 |                |
|                           |               |            |            | Taste & odor threshold | 5           | 100         | --           | --             | 42             | 29                  | 17             | --          |             |             |             |            |                 |                |
|                           |               |            |            | Cleanup Goals          | 50          | 100         | 175          | 0.5            | 42             | 29                  | 17             | 5           |             |             |             |            |                 |                |

**Notes:**

TOC: Top of casing referenced to feet above mean sea level (msl) in August 2002.

DTW: Depth to water as referenced to top of well casing.

GWE: Groundwater elevation as referenced to benchmark.

TPHg: Total Petroleum Hydrocarbons as Gasoline by EPA 5030/8260B.

TPHd: Total Petroleum Hydrocarbons as Diesel by EPA Method 3510/8015M.

TPHmo: Total Petroleum Hydrocarbons as motor oil by EPA Method 3510/8015M.

BTEX: Benzene, toluene, ethylbenzene, and xylenes by EPA method 8260B.

MTBE: Methyl tertiary butyl ether by EPA method 8260B.

DIPE: Diisopropyl ether by EPA Method 8260B.

ETBE: Ethyl-t-butyl ether by EPA Method 8260B.

TAME: Tertiary amyl methyl ether by EPA Method 8260B.

TBA: Tert-Butanol by EPA Method 8260B.

Methanol & Ethanol: by EPA Method 8260B.

µg/L: micrograms per liter = ppb = parts per billion

--: Not analyzed, available, or applicable

MCL: Maximum contaminant level, a Federal drinking water standard based on health, technology and economics.

Taste & odor threshold: A drinking water standard

\* The sample chromatogram does not match the standard chromatogram for this compound.



TABLE 4  
INTRINSIC BIOREMEDIATION DATA  
Elliott's Service Center  
761 Eel River Drive, Loleta, California  
Blue Rock Project No. NC-002

| Well No. | Date     | TPHg<br>(µg/L) | MTBE<br>(µg/L) | D.O.*<br>(mg/L) | Eh*<br>(mV) | Temp<br>(°C) | pH* | Total                | Nitrate<br>(mg/L) | Ammonia<br>(mg/L) | Sulfate<br>(mg/L) | Ortho               | Ferrous<br>(mg/L) | TOC<br>(mg/L) | COD<br>(mg/L) | BOD<br>(mg/L) | Heterotrophic           | Aerobic               | Anaerobic             |
|----------|----------|----------------|----------------|-----------------|-------------|--------------|-----|----------------------|-------------------|-------------------|-------------------|---------------------|-------------------|---------------|---------------|---------------|-------------------------|-----------------------|-----------------------|
|          |          |                |                |                 |             |              |     | Alkalinity<br>(mg/L) |                   |                   |                   | Phosphate<br>(mg/L) |                   |               |               |               | Plate Count<br>(CFU/mL) | Degraders<br>(CFU/mL) | Degraders<br>(CFU/mL) |
| MW-1     | 5/8/02   | 130            | 58             | 0.86            | 115         | 17.2         | 6.6 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 8/14/02  | <50            | 1.7            | 4.04            | 249         | 15.2         | 6.6 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 11/13/02 | <50            | 0.7            | 2.21            | 204         | 15.2         | 5.7 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 2/25/03  | 210            | 71             | 1.28            | 232         | 13.3         | 6.8 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 5/9/03   | 150            | 39             | 1.16            | 29          | 14.6         | 6.2 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 8/18/03  | <50            | 2.5            | 1.04            | 161         | 16.0         | 6.4 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 11/7/03  | <50            | 3.4            | 1.19            | 292         | 16.1         | 5.9 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 2/11/04  | <50            | 43             | --              | --          | 15.3         | 6.4 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 5/4/04   | 68             | 85             | 2.94            | --          | 15.2         | 6.6 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 7/27/04  | <50            | 7.4            | 1.86            | --          | 16.0         | 6.0 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04  | <50            | 43             | 1.71            | --          | 15.7         | 5.6 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05   | <50            | 76             | 1.68            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 5/6/05   | <50            | 37             | 4.52            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05   | <50            | 7.8            | 4.43            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
| MW-2     | 5/8/02   | 8,800          | 150            | 1.00            | 99          | 18.0         | 6.6 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 8/14/02  | 270            | 53             | 3.60            | 222         | 15.9         | 6.4 | 39                   | 17                | 0.50              | 2.9               | --                  | <0.1              | 2.4           | <10           | <3            | 2,000                   | 200                   | 200                   |
|          | 11/13/02 | 610            | 7.4            | 3.16            | 197         | 16.5         | 5.6 | 34                   | 18                | 0.17              | 3.3               | --                  | <0.1              | <2            | 14            | <3            | 200,000                 | 100                   | 20,000                |
|          | 2/25/03  | 6,400          | 89             | 1.65            | 148         | 13.4         | 6.7 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 5/9/03   | 18,000         | 100            | 1.44            | 21          | 14.9         | 5.9 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 8/18/03  | 570            | 28             | 1.22            | 127         | 16.6         | 6.0 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 11/7/03  | 3,500          | 130            | 1.27            | 181         | 16.3         | 6.2 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 2/11/04  | 21,000         | 110            | --              | --          | 15.3         | 6.4 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 5/4/04   | 13,000         | 72             | 2.70            | --          | 16.1         | 6.5 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 7/27/04  | 880            | 82             | 1.83            | --          | 16.0         | 5.7 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04  | 350            | 29             | 1.63            | --          | 15.8         | 5.8 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05   | 4,900          | 35             | 1.54            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 5/6/05   | 3,300          | 44             | 0.61            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05   | 770            | 9.6            | 3.90            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
| MW-3     | 5/8/02   | <50            | <0.5           | 1.20            | 112         | 18.1         | 6.6 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 8/14/02  | <50            | <0.5           | 3.84            | 233         | 15.8         | 6.6 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 11/13/02 | <50            | <0.5           | 3.67            | 229         | 15.2         | 5.9 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 2/25/03  | <50            | <0.5           | 1.17            | 230         | 13.3         | 6.8 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 5/9/03   | <50            | <0.5           | 1.08            | 39          | 15.0         | 5.8 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 8/18/03  | <50            | <0.5           | 1.02            | 268         | 16.3         | 5.8 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 11/7/03  | <50            | <0.5           | 1.47            | 318         | 16.9         | 5.9 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 2/11/04  | <50            | <0.5           | --              | --          | 15.2         | 6.4 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 5/4/04   | <50            | <0.5           | 2.94            | --          | 15.2         | 6.5 | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 7/27/04  | --             | --             | 1.82            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04  | --             | --             | 1.77            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05   | --             | --             | 1.40            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05   | --             | --             | 3.95            | --          | --           | --  | --                   | --                | --                | --                | --                  | --                | --            | --            | --            | --                      | --                    | --                    |



**TABLE 4**  
**INTRINSIC BIOREMEDIATION DATA**  
 Elliott's Service Center  
 761 Eel River Drive, Loleta, California  
 Blue Rock Project No. NC-002

| Well No. | Date     | TPHg<br>(µg/L) | MTBE<br>(µg/L) | D.O.*<br>(mg/L) | Eh*<br>(mV) | Temp<br>(C) | pH* | Total                | Nitrate<br>(mg/L) | Ammonia<br>(mg/L) | Sulfate<br>(mg/L) | Ortho               | Ferrous        | TOC<br>(mg/L) | COD<br>(mg/L) | BOD<br>(mg/L) | Heterotrophic           | Aerobic               | Anaerobic             |
|----------|----------|----------------|----------------|-----------------|-------------|-------------|-----|----------------------|-------------------|-------------------|-------------------|---------------------|----------------|---------------|---------------|---------------|-------------------------|-----------------------|-----------------------|
|          |          |                |                |                 |             |             |     | Alkalinity<br>(mg/L) |                   |                   |                   | Phosphate<br>(mg/L) | Iron<br>(mg/L) |               |               |               | Plate Count<br>(CFU/mL) | Degraders<br>(CFU/mL) | Degraders<br>(CFU/mL) |
| MW-4     | 5/8/02   | 8,100          | 2.9            | 1.10            | 85          | 17.6        | 6.7 | 98                   | 3.8               | 0.38              | 2.3               | <0.5                | 2.5            | 19            | --            | 28            | 600,000                 | 2,000                 | 10,000                |
|          | 8/14/02  | 1,700          | <1.5           | 4.54            | 138         | 16.0        | 6.6 | 58                   | 10                | 0.29              | 3.3               | --                  | 0.24           | 3.6           | 19            | <3            | 6,000                   | 700                   | 20,000                |
|          | 11/13/02 | 510            | <0.5           | 2.41            | 190         | 16.0        | 5.1 | 25                   | 18                | 0.13              | 3.5               | --                  | <0.1           | 4.8           | 12            | <3            | 4,000                   | <10                   | 7,000                 |
|          | 2/25/03  | 6,600          | 2.9            | 1.70            | 149         | 13.5        | 6.7 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/9/03   | 6,700          | 3.4            | 1.24            | 42          | 15.0        | 6.1 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/18/03  | 4,000          | 1.5            | 1.29            | 111         | 16.8        | 6.0 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/7/03  | 3,000          | 1.4            | 1.21            | 160         | 16.9        | 6.2 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/11/04  | 23,000         | <5             | --              | --          | 15.3        | 6.4 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/4/04   | 31,000         | <50            | 2.49            | --          | 16.8        | 6.4 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 7/27/04  | 870            | 0.64           | 1.71            | --          | 16.0        | 5.7 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04  | 1,300          | 0.66           | 1.49            | --          | 15.7        | 5.7 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05   | 20,000         | <2.5           | 1.32            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/6/05   | 13,000         | <2.5           | 0.78            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05   | 4,400          | 1.2            | 1.63            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
| MW-5     | 5/8/02   | <50            | 1.2            | 0.98            | 97          | 18.2        | 6.7 | 22                   | 19                | 0.14              | 3.5               | <0.5                | <0.1           | 3.4           | --            | <3            | 2,000                   | 130                   | 1,000                 |
|          | 8/14/02  | <50            | 1.8            | 4.20            | 237         | 15.3        | 6.7 | 26                   | 17                | <0.10             | 3.4               | --                  | <0.1           | <2            | <10           | <3            | 200                     | 60                    | 70                    |
|          | 11/13/02 | <50            | 1.7            | 2.37            | 190         | 16.1        | 5.7 | 23                   | 16                | 0.12              | 3.6               | --                  | <0.1           | 2.2           | 47            | <3            | 400,000                 | 20                    | 2,000                 |
|          | 2/25/03  | <50            | 0.93           | 1.47            | 225         | 13.3        | 6.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/9/03   | <50            | 1.5            | 1.21            | 40          | 14.9        | 5.7 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/18/03  | <50            | 0.91           | 1.22            | 287         | 15.8        | 5.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/7/03  | <50            | 1.3            | 1.29            | 292         | 17.1        | 5.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/11/04  | <50            | 1.2            | --              | --          | 15.4        | 6.2 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/4/04   | <50            | 0.6            | 2.94            | --          | 16.9        | 6.0 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 7/27/04  | <50            | 1.6            | 1.44            | --          | 16.0        | 5.6 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04  | --             | --             | 1.42            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05   | <50            | 0.73           | 1.27            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05   | <50            | 1.5            | 5.94            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
| MW-6     | 5/8/02   | <50            | 1.2            | 1.20            | 93          | 18.0        | 6.7 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/14/02  | <50            | 1.7            | 4.49            | 233         | 15.7        | 6.8 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/13/02 | <50            | 2.7            | 2.26            | 186         | 15.4        | 5.8 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/25/03  | <50            | 1.4            | 1.61            | 225         | 13.4        | 6.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/9/03   | <50            | 0.85           | 1.27            | 38          | 15.0        | 5.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/18/03  | <50            | 0.72           | 1.14            | 336         | 16.6        | 6.0 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/7/03  | <50            | 0.96           | 1.16            | 265         | 16.8        | 5.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/11/04  | <50            | 2.3            | --              | --          | 15.1        | 6.2 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/4/04   | <50            | <0.5           | 2.96            | --          | 15.2        | 6.5 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 7/27/04  | <50            | 1.3            | 1.53            | --          | 16.0        | 5.8 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04  | --             | --             | 1.39            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05   | <50            | <0.5           | 1.49            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05   | <50            | <0.5           | 6.62            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |



**TABLE 4**  
**INTRINSIC BIOREMEDIATION DATA**  
 Elliott's Service Center  
 761 Eel River Drive, Loleta, California  
 Blue Rock Project No. NC-002

| Well No. | Date     | TPHg<br>(µg/L) | MTBE<br>(µg/L) | D.O.*<br>(mg/L) | Eh*<br>(mV) | Temp<br>(C) | pH* | Total                | Nitrate<br>(mg/L) | Ammonia<br>(mg/L) | Sulfate<br>(mg/L) | Ortho               | Ferrous        | TOC<br>(mg/L) | COD<br>(mg/L) | BOD<br>(mg/L) | Heterotrophic           | Aerobic               | Anaerobic             |
|----------|----------|----------------|----------------|-----------------|-------------|-------------|-----|----------------------|-------------------|-------------------|-------------------|---------------------|----------------|---------------|---------------|---------------|-------------------------|-----------------------|-----------------------|
|          |          |                |                |                 |             |             |     | Alkalinity<br>(mg/L) |                   |                   |                   | Phosphate<br>(mg/L) | Iron<br>(mg/L) |               |               |               | Plate Count<br>(CFU/mL) | Degraders<br>(CFU/mL) | Degraders<br>(CFU/mL) |
| MW-7     | 5/8/02   | <50            | 2              | 0.97            | 208         | 18.2        | 6.6 | 34                   | 18                | 0.16              | 3.8               | <0.5                | <0.1           | 2.8           | --            | <3            | 30,000                  | 1,000                 | 30,000                |
|          | 8/14/02  | <50            | 1.3            | 4.47            | 244         | 15.8        | 6.7 | 33                   | 19                | <0.10             | 3.2               | --                  | <0.1           | <2            | <10           | <3            | 10,000                  | 1,000                 | 7,000                 |
|          | 11/13/02 | <50            | 0.93           | 2.83            | 219         | 15.8        | 5.6 | 24                   | 19                | 0.21              | 3.1               | --                  | <0.1           | 4.0           | 14            | <3            | 2,000                   | 20                    | 1,000                 |
|          | 2/25/03  | <50            | 1.0            | 1.55            | 232         | 13.4        | 6.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/9/03   | <50            | 0.81           | 1.19            | 39          | 14.7        | 6.0 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/18/03  | <50            | 1.2            | 1.19            | 330         | 15.8        | 5.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/7/03  | <50            | <0.5           | 1.20            | 217         | 16.1        | 6.5 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/11/04  | <50            | <0.5           | --              | --          | 15.2        | 6.3 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
| MW-7     | 5/4/04   | <50            | <0.5           | 2.98            | --          | 15.2        | 6.0 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 7/27/04  | <50            | <0.5           | 1.64            | --          | 16.0        | 6.0 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04  | --             | --             | 1.54            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05   | <50            | <0.5           | 1.70            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05   | <50            | <0.5           | 3.07            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          |          |                |                |                 |             |             |     |                      |                   |                   |                   |                     |                |               |               |               |                         |                       |                       |
|          |          |                |                |                 |             |             |     |                      |                   |                   |                   |                     |                |               |               |               |                         |                       |                       |
|          |          |                |                |                 |             |             |     |                      |                   |                   |                   |                     |                |               |               |               |                         |                       |                       |
| MW-8     | 5/8/02   | <50            | <0.5           | 0.99            | 126         | 17.5        | 6.6 | 32                   | 20                | 0.11              | 4.3               | <0.5                | <0.1           | 4.9           | --            | <3            | 2,000                   | 100                   | 10,000                |
|          | 8/14/02  | <50            | 0.63           | 4.17            | 213         | 15.7        | 6.8 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/13/02 | <50            | 0.57           | 3.77            | 258         | 14.3        | 5.3 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/25/03  | <50            | <0.5           | 1.29            | 229         | 13.3        | 6.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/9/03   | <50            | 0.6            | 1.09            | 37          | 14.9        | 6.1 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/18/03  | <50            | <0.5           | 1.09            | 334         | 16.8        | 5.9 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/7/03  | <50            | <0.5           | 1.19            | 267         | 16.4        | 6.0 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/11/04  | <50            | <0.5           | --              | --          | 15.7        | 6.3 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/4/04   | <50            | <0.5           | 2.70            | --          | 15.5        | 6.4 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 7/27/04  | --             | --             | 1.72            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04  | --             | --             | 1.67            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05   | --             | --             | 1.53            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05   | --             | --             | 5.66            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          |          |                |                |                 |             |             |     |                      |                   |                   |                   |                     |                |               |               |               |                         |                       |                       |
|          |          |                |                |                 |             |             |     |                      |                   |                   |                   |                     |                |               |               |               |                         |                       |                       |
| MW-9     | 7/27/04  | 150            | 0.68           | 1.87            | --          | 16.0        | 5.6 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04  | 140            | 0.81           | 1.71            | --          | 15.7        | 6.0 | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05   | 440            | 7.9            | 1.60            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 5/6/05   | 1,800          | 12             | 2.25            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05   | 550            | 1.3            | 3.61            | --          | --          | --  | --                   | --                | --                | --                | --                  | --             | --            | --            | --            | --                      | --                    | --                    |



**TABLE 4**  
**INTRINSIC BIOREMEDIATION DATA**

Elliott's Service Center  
761 Eel River Drive, Loleta, California  
Blue Rock Project No. NC-002

| Well No. | Date    | TPHg<br>(µg/L) | MTBE<br>(µg/L) | D.O.*<br>(mg/L) | Eh*<br>(mV) | Temp<br>(C) | pH* | Total                |    | Nitrate<br>(mg/L) | Ammonia<br>(mg/L) | Sulfate<br>(mg/L) | Ortho Phosphate<br>(mg/L) | Ferrous Iron<br>(mg/L) | TOC<br>(mg/L) | COD<br>(mg/L) | BOD<br>(mg/L) | Heterotrophic           | Aerobic               | Anaerobic             |
|----------|---------|----------------|----------------|-----------------|-------------|-------------|-----|----------------------|----|-------------------|-------------------|-------------------|---------------------------|------------------------|---------------|---------------|---------------|-------------------------|-----------------------|-----------------------|
|          |         |                |                |                 |             |             |     | Alkalinity<br>(mg/L) |    |                   |                   |                   |                           |                        |               |               |               | Plate Count<br>(CFU/mL) | Degraders<br>(CFU/mL) | Degraders<br>(CFU/mL) |
| MW-10    | 7/27/04 | 84             | <0.5           | 1.91            | --          | 16.0        | 5.7 | --                   | -- | --                | --                | --                | --                        | --                     | --            | --            | --            | --                      | --                    | --                    |
|          | 11/5/04 | 1,200          | <0.5           | 1.83            | --          | 15.6        | 5.9 | --                   | -- | --                | --                | --                | --                        | --                     | --            | --            | --            | --                      | --                    | --                    |
|          | 2/2/05  | 180            | <0.5           | 1.61            | --          | --          | --  | --                   | -- | --                | --                | --                | --                        | --                     | --            | --            | --            | --                      | --                    | --                    |
|          | 5/6/05  | 140            | <0.5           | 5.85            | --          | --          | --  | --                   | -- | --                | --                | --                | --                        | --                     | --            | --            | --            | --                      | --                    | --                    |
|          | 8/1/05  | 180            | <0.5           | 6.19            | --          | --          | --  | --                   | -- | --                | --                | --                | --                        | --                     | --            | --            | --            | --                      | --                    | --                    |

**Notes**

TPHg Total petroleum hydrocarbons as gasoline by EPAM 5030/8260B  
MTBE Methyl tertiary butyl ether by EPA Method 8260B  
µg/L micrograms per liter, equivalent to parts per billion - ppb  
mg/L milligrams per liter, equivalent to parts per million - ppm  
\* Parameters measured in field and recorded on field sheets  
mV Millivolts  
CFU/mL Colony forming units per milliliter  
D.O. Dissolved oxygen measured with downhole meter  
Eh Reduction-oxidation potential measured with downhole meter  
pH pH measured with field meter  
Alkalinity by EPA Method 310.1  
Nitrate by EPA Method 353.3

Ammonia by EPA Method 350.2  
Sulfate by EPA Method 375.4  
Phosphate by EPA Method 365.2  
TOC Total Organic Carbon by EPA Method 415.2  
Ferrous Iron by Standard Method 3500  
BOD Biological Oxygen Demand by EPA Method 405.1  
Heterotrophic  
Plate Count Bacteria enumeration assay by Standard Method 9215B modified  
Hydrocarbon  
Degraders Bacteria enumeration assay for diesel and gasoline degraders  
"--": Not analyzed, available, or applicable  
"<###" Not detected above the number indicated



**Table 5**  
**WELL CONSTRUCTION DETAILS**

Elliott's Service Center  
761 Eel River Drive  
Loleta, California  
Blue Rock Project No. NC-002

| Well<br>Identification | Date<br>Installed | Installed<br>by | Casing<br>Diameter<br>(inches) | Total<br>Depth<br>(feet) | Blank<br>Interval<br>(feet) | Screened<br>Interval<br>(feet) | Slot<br>Size<br>(inches) | Filter<br>Pack<br>(feet) | Bentonite<br>Seal<br>(feet) | Cement<br>(feet) |
|------------------------|-------------------|-----------------|--------------------------------|--------------------------|-----------------------------|--------------------------------|--------------------------|--------------------------|-----------------------------|------------------|
| MW-1                   | 5/10/00           | Clearwater      | 2                              | 20                       | 0-5                         | 5-20                           | 0.02                     | 4.5-20                   | 2.5-4.5                     | 0-2.5            |
| MW-2                   | 5/10/00           | Clearwater      | 2                              | 20                       | 0-5                         | 5-20                           | 0.02                     | 4.5-20                   | 2.5-4.5                     | 0-2.5            |
| MW-3                   | 5/10/00           | Clearwater      | 2                              | 20                       | 0-5                         | 5-20                           | 0.02                     | 4.5-20                   | 2.5-4.5                     | 0-2.5            |
| MW-4                   | 5/10/00           | Clearwater      | 2                              | 20                       | 0-5                         | 5-20                           | 0.02                     | 4.5-20                   | 2.5-4.5                     | 0-2.5            |
| MW-5                   | 8/8/01            | Clearwater      | 2                              | 25                       | 0-5                         | 5-25                           | 0.01                     | 4-25                     | 3-4                         | 0-3              |
| MW-6                   | 8/8/01            | Clearwater      | 2                              | 25                       | 0-5                         | 5-25                           | 0.01                     | 4-25                     | 3-4                         | 0-3              |
| MW-7                   | 8/8/01            | Clearwater      | 2                              | 25                       | 0-5                         | 5-25                           | 0.01                     | 4-25                     | 3-4                         | 0-3              |
| MW-8                   | 8/8/01            | Clearwater      | 2                              | 25                       | 0-5                         | 5-25                           | 0.01                     | 4-25                     | 3-4                         | 0-3              |
| MW-9                   | 6/16/04           | Blue Rock       | 2                              | 25                       | 0-5                         | 5-25                           | 0.01                     | 4-25                     | 3-4                         | 0-3              |
| MW-10                  | 6/16/04           | Blue Rock       | 2                              | 25                       | 0-5                         | 5-25                           | 0.01                     | 4-25                     | 3-4                         | 0-3              |
| DOM-1                  | unknown           | unknown         | 6                              | 45                       | unknown                     | unknown                        | unknown                  | unknown                  | unknown                     | unknown          |